



The American Antitrust Institute

AAI Working Paper No. 13-06

Date: November 7, 2013

Title: Is *Auto Parts* Evolving into a Supercartel?

Author: John M. Connor, Senior Fellow, American Antitrust Institute

Author Contact: jconnor@purdue.edu

“The auto parts investigation is the largest criminal investigation the Antitrust Division has ever pursued, both in terms of its scope and the potential volume of commerce affected by the alleged illegal conduct”

(Sharis A. Pozen, Acting AAGA, January 30, 2012)

Overview

A large number of price-fixing investigations have been launched in the past two years by at least six antitrust authorities around the world targeting industries manufacturing mechanical and electrical automotive parts. All six benefit from the cooperation of amnesty applicants, and four of the six are employing criminal laws and procedures to unearth information.

Hundreds of auto parts bundled into scores of “systems” are involved. A highly publicized set of convictions of nine companies in late September greatly expanded the list of cartelized products (DOJ 2013). While it is difficult to be precise at this stage, it appears that roughly 34 separate cartels are under investigation, most of them global in scope.¹ More than 80 companies have been

* The first edition of this AAI Working paper was posted in December 2012 (see <http://www.antitrustinstitute.org/~antitrust/sites/default/files/WorkingPaper12-06.pdf>). The number of cartels under investigation and the fines imposed has expanded considerably in the interim eight months.

¹ The cartels so far identified are characterized by a high degree of supply substitutability in the sense that the products are made in plants controlled by parts manufacturers that are rivals in supplying interconnected systems that are designed to be integrated by a single control mechanism. For example, *Thermal Systems* covers an array of pumps, fans, vents, compressors, sensors, displays, and driver controls wired together to heat and cool the vehicle cabin. Other products like bearings are less complicated. Not all auto parts makers are likely to be proved to be in collusion; an announcement by Magna (2013) appears to rule out the auto-tooling industry. Similarly, although the highly

identified so far as targets of these probes, with that number likely to grow as more prosecutions are finalized.

As of September 2013, a total of almost \$2.0 billion in corporate fines have been imposed. At the rate these cases are evolving, there is a good chance that monetary penalties eventually may climb to \$5 billion or more.² Moreover, individual penalties are escalating. The DOJ has so far indicted 21 auto-parts executives, of which 17 have agreed to prison sentences totaling 233 months.

The many auto parts cases seem to be evolving into the world's second supercartel, like the infamous *Vitamins* cartels of the 1990s. Supercartels are unique. They are: (1) global in scope and (2) have a large number of distinct products (i.e., separate cartels) with partially overlapping corporate membership, and (3) direct their price fixing at customers in one vertical production-distribution channel. In short, supercartels have wheels within wheels.³

Auto-Parts Cartels Are Historically Unusual

If one goes back 23 years, the number of auto-supply industries convicted of illegal cartel behavior is rather small, given the large size of the automotive sector. I have scoured a large scale data set of international cartels⁴ and found up to eleven⁵ (see Table 1) that predate the current 2010-2012 wave of 19 cartels (Table 2). Some of the related cartels do not compare to the mostly mechanical-electrical manufactured parts in the current wave.⁶ Perhaps the most comparable predecessor is *Auto Glass*, a 2004-2005 cartel that resulted in record EU fines of \$1.76 billion.

The 34 alleged auto-industry cartels comprise about 4% of the total number of international cartel detected in the past 23 years. One possible reason that few auto-parts cartels were observed in the past is because of the large resources expended on procurement by a relatively small number of presumably “sophisticated” buyers. Auto manufacturers tend to have procurement specialists who develop expertise in the industries from which inputs are purchased.

concentrated marine *Auto Shipping* industry is suspected of cartel conduct, the atomistic overland shipping industry is so far free of suspicion.

² The current world-record holder is the vast *Air Cargo* cartel, which has an accumulated \$4.2 billion in penalties.

³ Please note that this is not a bad pun about the auto parts cartels. No wheel parts makers have yet been accused.

⁴ The *Private International Cartels (PIC)* data set has unrivaled legal-economic information on more than 900 cartels and 7000 cartelists.

⁵ Two more were investigated but dropped or cleared by the authorities. In one unique case (*Aftermarket Auto Air Filters*), the DOJ was misled by a putative whistle-blower later indicted for lying to investigators. A third alleged cartel (Automobiles, Canadian imports to US) was dismissed after one company settled.

⁶ The *Indian Tires*, *Canadian Auto Imports*, *Auto Manufacturing in Turkey*, *Truck Manufacturing in EU*, and *FEFC Shipping* cartels are cases in point. Even *Automotive Refinishing Paint* is not comparable because customers were auto body shops, not auto OEMs.

Industry Structure and Conduct

Except for buyer sophistication, industry structure and customary practices make many auto-supply industries fertile ground for overt price fixing. For the products alleged to have been price-rigged, there are few suppliers that tend to be geographically clustered. For example, the four Japanese suppliers of *Auto Lighting Products* control well over 90% of U.S. national supply. Similarly, the top four wiring harness suppliers control 77% of the global market (Sedgwick 2013). To some extent, automakers' policies of running qualification programs for suppliers created barriers to entry and ultimately contributed to a high degree of supplier concentration for assembly plants in most markets.

Moreover, "Competitors regularly meet at a variety of events, such as trade fairs or workshops organized by OEMs, which creates opportunities for illegal discussions" (Bird & Bird 2012). The auto industry's labor market has a reputation for being segmented from that of other industries. Managers and executives of auto suppliers and their clients tend to move jobs by circulating to other companies in the auto subsector. Legal sharing of technical information between rival suppliers may morph into sharing of sales transactions, prices, or information on future plans.

However, countervailing these oligopolistic conditions is the fact that automakers are also few in number and have a reputation for being tough, well informed buyers. Auto parts suppliers tend to work closely with the assemblers on product designs because of frequent model changes. The presumed "sophistication" of the buyers (the OEMs) made collusion unlikely. Moreover, some suppliers – especially those supplying Japanese brands -- were nearly controlled their buyers.

The auto industry is the prototypical "global industry." That is, its sourcing methods are virtually identical across markets with significant auto assembly: North America, the EU, Japan, China, Brazil, and others. Auto parts are bought through Requests for Proposals (i.e., "tenders") issued by the automakers. These RFPs contain tight quality and design specifications. When a proposal (a bid) was submitted, virtually the only consideration was price. The RFPs imposed product homogeneity, thus eliminating one potential factor that tends to frustrate the formation and smooth operation of cartels. In short, bid rigging was made easier. Once a bid was accepted, supply contracts typically lasted for several years (until a car model was totally redesigned), which also prevents entry.

A Surcharge Order of the Japan FTC outlines how two suppliers of windshield wipers organized one cartel. Mitsuba and Denso agreed to let one of them win an RFP from Fuji Heavy Industries in June 2000; in September 2002 this *pas de deux* was repeated for Suzuki; and Nissan was the victim of a third rigged bid in March 2003 (JFTC 2012: 2).⁷ One of the more bizarre episodes was described

⁷ This Surcharge Order demonstrates the difficulty of precisely demarcating cartels. The Order identifies cartelization by seven companies of four non-substitutable parts (generators, starters, wiper systems, and radiator/fan assemblies). The unifying factor is small electric motors and the presence of Denso Corp. in all four sub-markets. Never did more than four companies rig bids for a specific part; often it was only two.

by the Japan FTC's report on the *Small Electric Motor Auto Systems* cartel. One of the cartelists was Calsonic Kansei, which is largely owned and controlled by Nissan Motors. Calsonic/Nissan rigged high prices on starters and generators sold only to Fuji Heavy Industries, maker of Subaru cars, and one of the smaller Japanese automakers. Thus, Nissan benefitted strategically in the auto market because it was able to impose through collusion extra manufacturing costs on a rival's brand.

Origins

There is uncertainty about how the current wave of auto-parts cases began. One story is that it began with complaints from some EU auto assemblers about failures to get responses from wiring harness manufacturers to requests for bids in late 2009. Other sources say that in late 2009 a whistle-blower approached the Canadian Competition Bureau (CCB) to apply for amnesty (Johnson Winter 2012). The CCB sent requests to five other parts suppliers and shared its findings with other antitrust authorities.

Whatever the initial impetus, in February 2010 three antitrust authorities conducted coordinated raids worldwide. The DOJ, EC, and JFTC raided manufacturers of three types of auto parts: *Wiring Harnesses*, *Fuel Senders*, and *Instrument Panel Clusters*. Perhaps aided by Amnesty-Plus programs, further cartels were investigated: *Aftermarket Sheet Metal*⁸ in 2010; *Aftermarket Auto Lights* in July 2010; *Occupant Safety Systems* and *Auto Refrigerants* in February 2011; *Auto Bearings*, *Aftermarket Auto Lights*⁹, and *Small Electric Motor Components* in July 2011; *New Auto Lights* in March 2012; *Thermal Systems* in July 2012; and *Auto Marine Shipping* in September 2012. The Canadian Competition Bureau also joined in fairly early. By 2012, the Mexican and South Korean antitrust authorities were cooperating with the first four. And the German Federal Cartel Office unearthed two auto-parts cartels on its own territory.

Press reports and some cartel-fine decisions have identified several amnesty recipients. Furukawa Electric Co. was granted immunity in the *Wiring Harnesses* cartel by the JFTC; Denso Corp. was granted immunity in the *Thermal Systems* cartel by the JFTC; JTECK Corp. was granted immunity in the *Auto Bearings* cartel by the JFTC. Doubtless several more leniency and "leniency-plus" recipients will be revealed in the next couple of years.

Clearly, close cooperation and coordination among these far-flung antitrust authorities has greatly aided in the rapid dissemination of information needed to begin the multiple investigations.

⁸ This cartel was apparently discovered by U.S. private plaintiffs, and the role of government investigations, if any, is unclear.

⁹ This cartel was apparently discovered by U.S. private plaintiffs, and the role of government investigations, if any, is unclear.

Consider this statement by experienced antitrust experts about investigations in Canada:

“Massive enforcement resources appear to be at play in the ongoing auto parts inquiry which, from early estimations, appears poised to become the biggest cartel case in history. From documents filed with the Ontario courts, we know that the Bureau’s investigation began with the wire harness raids in February 2010 and has grown exponentially since then. The size of the Canadian inquiry is remarkable — as of October 2011, the Bureau claims to have:

- 10 co-operating parties in the inquiry;
- issued at least 15 “target” letters and numerous subpoenas (“Section 11 orders”); and
- granted 164 markers to its co-operating parties across a broad range of products.

The last figure is particularly impressive and would, under normal circumstances, reflect *years* of enforcement efforts. Clearly it is the result of the enormous scope of the automobile manufacturing supply chain, and the effects of “amnesty plus” applications” (Low et al. 2012).

A Huge Array of Products

At this stage, it is hard to know how many cartels were operating, whether they were interrelated, and where they colluded. However, after studying the available information, 34 markets seem to have been affected (Table 2).¹⁰ Within some of these cartels, many products are encompassed by integrated parts systems. For example, such a seemingly well defined product as *Wiring Harnesses* encompasses many related products: automotive electrical wiring, lead wire assemblies, cable bond, automotive wiring connectors, automotive wiring terminals, high voltage wiring, electronic control units, fuse boxes, relay boxes, and junction blocks. *Occupant Safety* and *Thermal Systems* are similar product assemblies.

At least 30 of the 34 car-parts cartels appear to be global at present, but some may turn out to be single-jurisdiction schemes.

Market Sizes are Large

Information about the precise market definitions for the cartels is only slowly emerging. However, I have been able to find or make estimates of affected commerce for a few of the cartels.¹¹ The U.S. *Auto Bearings* industry was worth about \$14 billion over the seven-year collusive period. The ten-year-plus collusion in *Auto Lighting Products* generated sales in Japan alone of \$19 to \$29 billion. *Auto Shipping* was reported to be a \$6-billion-per-year industry worldwide. *Wiring Harnesses* had an estimated \$185 billion in affected sales. And in the XX cartels announced by Attorney General

¹⁰ The list may not be exhaustive. Catalytic converters and electronic navigation & entertainment systems have been suggested as affected auto-parts products. One source says that the DOJ is investigating 60 cartels.

¹¹ Some of these estimates are based on apparently reliable assertions about affected sales in only one year from which I projected sales to the entire collusive period.

Holder in September 2013, he said that American consumers purchased more than 25 million new cars containing these cartelized auto parts.

Duration of Collusion

The information currently available indicates that these cartels have endured for above-average lives. The typical international cartel lasts for a median age of six or seven years. For the auto-parts cartels with preliminary information, the average duration is longer – about eight or nine years (Table 2).

Antitrust Prosecutions

Most of the auto-parts prosecutions are in their infancy, yet already government fines imposed amount to almost \$2 billion. U.S. fines account for more than 80% of that total. Seventeen companies have agreed to pay U.S. fines above \$10 million: Yazaki Corp. \$470 million, Furukawa Electric Co. \$200 million, Hitachi \$195 million, Mitsuba Corp. \$135 million, JTECK Corp. \$103.27 million, Denso Corp. \$78 million, Takata Corp. \$71.3 million, NSK Ltd. \$68.2 million, Depo Auto Parts Industrial Co. \$43 million, Fujikura Ltd \$20 million, Tokai Rika Co. \$17.7 million, Mitsubishi Heavy Industries \$14.5 million, Mitsubishi Electric Corp. \$14.5 million, and Autoliv \$14.5 million, T.RAD Co. \$13.75 million, Valeo Japan Ltd. \$13.6 million, Yamashita Rubber Co. Ltd. \$11 million. Fifteen of these companies' parents are headquartered in Japan; indeed, 60 of the 80-plus cartelists are Japanese firms. Major U.S., Canadian, French, Swedish, and German firms are also under suspicion.

There are concerns that the Antitrust Division has inadequate personnel to deal with the large number of auto-parts cartels (Lindell 2012).¹² The Antitrust Division secured the last \$744 million in fines at the very end of its fiscal year, which could signal a pause in major convictions for a while.¹³ On the other hand, there are also many unnamed co-conspirators in plea agreements that ought to be brought to justice.

The Japan FTC has moved very quickly, fining seven auto-parts firms a total of \$215 million. Yazaki Corp.'s fine of \$127 million set a new Japanese antitrust record. Moreover, the JFTC has referred four firms and seven executives for criminal prosecution in *Auto Bearings*, the first criminal antitrust prosecution in four years. Canada has imposed two small fines. Most of the EC's eight known auto-

¹² The author cites former DOJ attorneys as stating that because of the closure of several of its regional offices, the Division lost one-half of its professional staff dedicated to antitrust enforcement. Lawyers representing potential amnesty applicants complain that they are unable to schedule meetings with prosecutors. A recently resigned director of criminal enforcement in the Division, John Tezaken, echoed these sentiments (Koons 2013).

¹³ By rushing the pleas to just before September 30th expired, the Division will be able to announce \$1 billion in cartel fines for the 2013 Fiscal Year (Koons 2013). Without these *Auto Parts* fines, announced to the press by the Attorney General himself, 2013 would have tracked far below par.

parts prosecutions will take another two to three years to be decided. Given the large size of the EU's auto industry, the fines that are imposed in auto parts will be an important test for the Almunia commissionership, which has started out with low levels of fines in its first two years. In the past, the EC has over-topped U.S. fines for the same infractions. If Almunia follows precedent, EC auto-parts fines should easily exceed \$2 billion.

Leniency and Amnesty-Plus policies must have played significant roles in detection of the auto-parts cartels.

“Part of the investigations seems to be related to what is sometimes referred to as the ‘snowball effect’ of leniency programs. Companies that are caught in an investigation often carry out a detailed internal audit to determine whether other business divisions are involved in illegal conduct as well. If this is the case, they typically will file a leniency application, i.e. they will disclose this conduct voluntarily to the authorities in order to be exempt from fines for infringements in these other business areas. Under the US ‘Amnesty Plus’ program, there is even a double incentive for companies to make such a voluntary self-disclosure” (Bird & Bird 2012).

In March 2013, the Indian Competition Commission began an investigation into whether 17 auto manufacturers were colluding on the sales of car parts to independent dealers (Vyas and Thakkar 2013). In August 2013, speculation began to mount that the new China antitrust authority was soon going to investigate price fixing in the automobile industry. However, this investigation seems to be directed at whole finished imported vehicles, not parts (Telegraph 2013).

An unusual feature of private antitrust litigation so far is the relative absence of direct-purchaser class actions for damages; mostly, indirect-purchaser cases have been filed. Private damages suits by indirect purchasers have been launched for nearly all of the auto-parts cartels, but no settlements are likely for years. In the *Aftermarket Auto Lights* case, Depo Auto Parts Industrial Co. agreed to pay \$25 million to direct purchasers. Historically, private settlements in cartel cases have greatly exceeded U.S. fines.

For many of the auto-parts cartels, each of the defendants sells to one or a very few large automakers. Because the necessary requirement of “numerosity” is absent, class actions by the auto makers are unlikely. Rather, as suggested by antitrust lawyer Andrew Lee, “A lot of automakers want to preserve their relationships with some of these suppliers” (Baumann 2012). Indeed, in late 2013 Ford Motor Co. seems to have developed a legal strategy that other direct purchasers are likely to follow (Sedgwick 2013). On July 16, 2013, Ford became the first to file a suit in *Auto Parts*. It sued Fujikura Ltd. for treble damages for wiring harnesses supplied for its Ford Fusion sedan, even though Fujikura lost the bid. Thus, legal commentators surmise that auto manufacturers will be seeking cash compensation from non-winners in the bidding rings, but will demand future discounts, better warranties, or other qualitative concessions from their suppliers that colluded against them.

Concluding Remarks and Speculations

Most cartels are formed after a sustained period on falling prices and profits. Auto manufacturers have long placed strong pressures on their suppliers to reduce prices of their inputs. Did the assemblers push too hard on price reductions before collusion began and thereby trigger an existential response? Did the Japanese automakers become victims of a system that was of their own making, a system that became to be imitated by non-Japanese suppliers?

The *Auto-Parts Supercartel* is well on its way into the cartel record books. At 80-plus, it has already surpassed the former champion, *Air Cargo*, in terms of number of companies accused and convicted. My December 2012 prediction that worldwide fines will approach or exceed \$5 billion seems more likely than ever, if the EC lives up to its historical reputation. And private settlements in North America in many cases will be limited only by the depth of the perpetrators' pockets.

References*

Baumann, David. *Policy and Regulatory Report*. (4/12/2012).

Bird & Bird. Cartel investigations in the automotive supply industry - Are you prepared? *Bird & Bird Briefing* (March 2012).

[<http://www.twobirds.com/English/News/Documents/Automotive%20news%20March%202012.htm>]

DOJ. *Nine Automobile Parts Manufacturers and Two Executives Agree to Plead Guilty to Fixing Prices on Automobile Parts Sold to U.S. Car Manufacturers and Installed in U.S. Cars*. Washington, DC: U. S. Department of Justice (September 26, 2013).

Halcom, Chad. New Charges, Stay Request Signal More Supplier Price-Fixing Prosecutions Ahead. *Crain's Detroit Business* (August 12, 2013).

JFTC. *The JFTC Issued Cease and Desist Orders and Surcharge Payment Orders to Participants in Bid-rigging Conspiracies for Automotive Parts*. Japan Fair Trade Commission Press Release. (November 22, 2012). [<http://www.jftc.go.jp/en/pressreleases/archives/individual-000507.html>]

Johnson Winter. MEGA-CARTEL IN THE GLOBAL AUTOMOTIVE PARTS INDUSTRY.
John Winter & Slattery (Australia) (2012)
[http://www.jws.com.au/___files/f/4968/Auto%20Parts%20Cartel%20March%202012.pdf]

Koons, Jennifer. Justice Department's Antitrust Penalties Hold Steady at \$1 Billion, Firm Finds.
Main Justice. (October 10, 2013). [<http://www.mainjustice.com/2013/10/07/justice-departments-criminal-antitrust-penalties-hold-steady-at-1-billion-firm-finds>]

Lindell, Cecile Kohrs. Budget-Cutting Effort Leaves Anti-Cartel Efforts Shorthanded. *Financial Times*. (December 26, 2012).

Low, D. Martin & Casey W. Halladay. *Key Issues for Canadian Cartel Enforcement in 2012*. American Bar Association International Cartel Workshop (2012).
[http://www.mcmillan.ca/Files/140935_Low_Halladay2012_Cartel_Workshop_Published.PDF]

Magna. *Magna International Regulatory Filing* (1/11/2013).

Sedgwick, David. More Pleas Are Likely in Bid-Rigging Probe. *Automotive News*. (September 30, 2013).

Telegraph. Car Makers Face Possible China Probe over Price-Fixing Fears. *The Telegraph* ((August 13, 2013).

Vyas, Maulik and Ketan Thakkar. Is there an auto parts cartel at work in India? *The Economic Times (India)*. (16 March 2013).

*Most of the information in this paper is taken from the Web pages of the antitrust agencies, trade magazines, and Internet searches and is incorporated into the *Private International Cartels* spreadsheet. These are too numerous to list. Details from the author upon request.

TABLES

Table 1. Eleven ^a Related Auto and Auto-Parts Cartels, 1990-2013						
Market, Geographic Location	Firms	Auth- ority	Discovery Date	Collusion Dates	Penalties (\$ mil.)	Notes
Auto Batteries manufacturing, Korea	4	KR	11/10/2004	6/03-9/04	1.6	
Tires, India	5	IN	2010	2005-2010	0	cleared
Automotive Refinishing Paint (Global?)	5	US+CA+E U+ PVT	6/4/2001	1/93-12/00	106	3 govt. probes closed
Automotive welding electrodes, France	5	FR	12/16/2010	2002-2005	0.133	
Automobiles, Canadian imports, US	8	US PVT	2003	1/2001-3/06?	36	Later dismissed
Auto manufacturing & distribution, Turkey	19	TR	9/9/2009	2006-9/2009	148	TR Record Fines
Aftermarket Auto Air Filters, US	11	US	8/6/2008	1/1/99- 3/31/2008	0	False Accusation
Auto glass (Carglass), EU	4	EC	2/24/2007	2/24/2007	1757	
Shipping FEFC (autos to/from Far East), Global	4	EC	3/28/2003	1995-2003	consent	
Truck Manufacturing, EU	6	UK then EC	9/16/2010	?	0	
Auto manufacturing & distribution, Spain	3+	ES	7/26/2013	?	?	
a) Note that one of the 11 was later cleared. Source: Private International Cartels spreadsheet (2013)						

Table 2. Thirty-Four Recent Alleged Auto-Parts Cartels, by Date Detected 2010-2013						
Market Name, Geography	Firms ^a	Authority	Discovery Date	Collusion Period	Penalties (\$ mil.)	Notes
Auto Occupant Safety Systems, Global	7	US EC US PVT	2/11/2011	1/1/2005- 2/2011	91+	DOJ punishes 2 executives
Auto Lighting Products, Aftermarket, US & Canada	5	US PVT US CA	7/22/2010	7/21/2001- 9/2008	75	
Auto Bearings, Global	6	JP EC US PVT	7/27/2011	2004-7/2011	147.3	
Auto Refrigerants, EU	2+	EC	2/2011	?	pending	
Auto Parts, Sheet Metal, Aftermarket, US	4	US PVT	2010	2003-2008	pending	
Auto Thermal Systems, Global	7	US EC	7/13/2012	1/1/2000- 2011	81 part	
Auto Marine Shipping, Global	7+	JP EC US CA	9/6/2012	?	pending	
Auto Small Electric Motor Components, Global	4+	JP	7/2011	11/2000- 7/2011	32.5	1 st criminal case in 4 years in Japan
Auto Wiring Harnesses, Global	11	US JP CA EC AU US PVT	2/23/2010	1/1/2000- 2011?	959 part	DOJ punishes 11 executives
Auto Fuel Senders, Global	2+	US EC JP US PVT	2/23/2010	3/2004- 2/2010	597 part	
Auto Instrument Panel Clusters, Global	2+	US EC JP US PVT	2/2010	12/2002- 2/2010	597 part	
Auto parts, New Auto Lights, Global	4	JP	3/2012	3/2000- 3/2012		
Auto anti-vibration parts, Global	2+	JP	12/2012	10/2005- 11/2011	0.02 part	DOJ imprisons one exec.
Auto electrical boxes, Global	2+	CA	4/25/2013	2001-2006	5.0	
Auto high-intensity-discharge (HID) ballasts (for "xenon" lights), Global	2+	US	9/18/2013	7/2003- 2/2011	15.3 e	
Auto parts, ignition coils, Global	2+	JP	7/16/2013	7/1998- 2/2010	19.0	
Auto parts, steering angle sensor, Global	2+	US	9/18/2013	9/2003- 2/2010?	15.3 e	
Auto parts, electrical switches (steering wheel, turn, wiper, combination,	2+	JP	11/14/ 2011	9/2003- 2/2010	15.3 e	

door), Global						
Auto parts, steel, Germany	4	DE	3/25/2013	?	?	
Auto parts, air flow meters, Global	2+	US JP CA EC AU MX	9/26/2013	1/2000- 2/2010	195 (part)	
Auto parts, Automatic Transmission Fluid warmers, Global	2	US JP CA EC AU MX	9/26/2013	11/2002- 2/2010	13.75 part	
Auto parts, electronic throttle bodies , Global	2	US JP CA EC AU MX	9/26/2013	1/2000- 2/2010	195 (part)	
Auto parts, fan motors, Global	2	US JP CA EC AU MX	9/26/2013	1/2000- 2/2010	135 part	
Auto parts, fuel injection systems, Global	2	US JP CA EC AU MX	9/26/2013	1/2000- 2/2010	195 part	
Auto parts, inverters, Global	2	US JP CA EC AU MX	9/26/2013	1/2000- 2/2010	195 part	
Auto parts, motor generators, Global	2	US JP CA EC AU MX	9/26/2013	1/2000- 2/2010	195 part	
Auto parts, power window motors, Global	2	US JP CA EC AU MX	9/26/2013	1/2000- 2/2010	135 part	
Auto parts, radiators , Global	2	US JP CA EC AU MX	9/26/2013	11/2002- 2/2010	13.75 part	
Auto parts, Starter motors, alternators, & ignition coils, Global	3+	US JP CA EC AU MX	9/26/2013	1/2000- 2/2010	195 part +14.5 +135 part	
Auto parts, power steering assemblies, Global	2	US JP CA EC AU MX	9/26/2013	2005-10/2011	103.27 part	
Auto parts, valve timing controls, Global	2	US JP CA EC AU MX	9/26/2013	1/2000- 2/2010	195 part	
Auto parts, windshield washers, Global	2	US JP CA EC AU MX	9/26/2013	1/2000- 2/2010	135 part	

Auto parts, windshield wipers, Global	2	US JP CA EC AU MX	9/26/2013	1/2000- 2/2010	135 part	
Trunk linings, nonwoven textile, auto, Germany	6	DE	10/10/2013	?	?	
Total	83+	Seven authorities			2,006 plus	

a) Number of companies that were “raided”, subpoenaed, granted amnesty, indicted, fined, plead guilty, or paid settlements in private antitrust suits. Some double counting (see note below).

Source: *Private International Cartels* spreadsheet (2013)

Note: Yazaki Corp. pays \$597 million in penalties for three separate cartels. Denso pays \$78 million for two separate cartels. Hitachi pays \$195 million for nine separate cartels. Mitsuba pays \$135 million for five separate cartels (and obstruction of justice).