

# Canada's International Cartel Enforcement: Keeping Score

John M. CONNOR<sup>\*</sup>

*Canada's Competition Bureau has been a well-rated competition-law enforcer. Previously published assessments of its anti-cartel efforts tend to heap praise on the authority. Yet its antitrust performance in the past decade or so has flagged. A quantitative assessment of several dimensions of outcomes made of the Bureau's anti-cartel enforcement activities shows an agency unable to live up to its earlier promise.*

## 1 INTRODUCTION

The object of Canada's anti-cartel law and the main mission of the Canadian Competition Bureau ('the Bureau') are to deter the formation of cartels. Canada is a high-income, economically developed post-industrial nation, which ranks about 10th in size in the world in gross domestic product (GDP). It has had a modern criminal antitrust statute and a competent, professional federal enforcement agency since the late 1990s.<sup>1</sup> Government enforcement has been augmented by the world's second-most-developed legal system for private damages litigation.

The need for assertive enforcement of anti-cartel measures in Canada is supported by abundant data. During 1990–2015, no less than 240 international cartels were discovered to have operated in the highly integrated economies of the United States or Canada – mostly in both (Figure 1). About 4.5 such cartels have been discovered and investigated on average each year by the Bureau. The commerce affected by cartels in the two nations exceeds USD 4 trillion, and undiscovered cartels conservatively account for

---

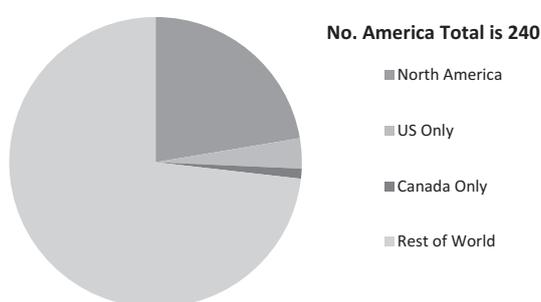
<sup>\*</sup> Now Emeritus Professor, John M. Connor taught industrial-organization economics at Purdue University in Indiana from 1983 to 2011. He holds a Ph.D. from the University of Wisconsin. For 20 years, the focus of Dr Connor's research has been international price-fixing cartels and world-wide enforcement of price-fixing laws. He is the author of 18 books and monographs and more than 200 other scholarly publications in economics and law. He frequently advises law firms and antitrust authorities on legal-economic issues, cartel cases in particular. Email: jconnor@purdue.edu.

<sup>1</sup> Although a federation with strong powers in several spheres reserved for its Provinces, competition law is exclusively a federal responsibility in Canada.

an additional USD 13 trillion.<sup>2</sup> Cartel-generated economic injuries to Canadian customers conservatively exceed USD 4 trillion.

The Bureau's fines and other legal remedies are designed to minimize cartel injuries. The question addressed in this article is: How well is the Bureau doing its job?

Figure 1: About One-Fourth of All Cartels Fixed Prices in the U.S. or Canada



Opinions on the quality of the Bureau's anti-cartel enforcement are mixed. Beginning in the late 1990s, the Bureau's reputation for toughness began to soar after a series of high profile prosecutions of global cartels resulted in record fines.<sup>3</sup> High hopes were expressed that the 2009 amendments to the Competition Act ('the Act') would permit significant increases in the number of cartels detected and the severity of cartel-enforcement outcomes.<sup>4</sup> The Bureau typically gets good marks from antitrust magazines.<sup>5</sup>

<sup>2</sup> The GDP of Canada's economy is roughly 7% the size of the US GDP. For the sources and methods to derive cartel sales, see J. Connor, *The Private International Cartels (PIC) Data Set: Guide and Summary Statistics, 1990–July 2016 (Revised 2nd Edition): SSRN Working Paper*. (8 Aug. 2016), <http://ssrn.com/abstract=2821254>

<sup>3</sup> Writing in about 2006, I was such an admirer. See J. Connor, *Global Price Fixing: Paperback* 103 (2nd ed., Berlin and Heidelberg, Germany: Springer Verlag Apr. 2008): 'Canada is a model for many smaller industrialized countries that have tough anticartel laws on their books yet have small enforcement resources'.

<sup>4</sup> See M. Aitkin, *Remarks by Melanie L. Aitken, Commissioner of Competition*, 2011 Competition Law and Policy Forum, Northwinds Professional Institute, Cambridge, Ontario (24 Feb. 2011), <http://www.competitionbureau.gc.ca/eic/site/cb-bc.nsf/eng/03377.html>: 'We have had notable success in battling cartels' said newly installed Competition Commissioner Aitkin one year after the new law became effective. D. Low & C. Halladay, *Key Issues for Canadian Cartel Enforcement in 2012*, American Bar Association International Cartel Workshop (2012) predicted massive prosecutions of the global *Auto Parts*, *CRT*, and *LIBOR* cartels, which I show below has not happened.

<sup>5</sup> The annual ratings received by the Bureau from *Global Competition Review* place it 10th to 13th out of about 40 competition-law agencies in 2010–2016.

Yet, as early as 1990, critics expressed concerns that the Bureau's historic fines on corporate cartelists are inadequate.<sup>6</sup> And in more recent years, highly critical reviews of the Bureau's performance appeared. Reviewing developments in 2015, experienced observers of antitrust trends concluded that there were questions 'about the ability of the Bureau/PPSC to effectively enforce Canada's anti-cartel law'.<sup>7</sup>

There are frequent articles assessing outcomes of Canadian cartel enforcement, mostly by Canadian attorneys specialized in antitrust law. These articles usually look back to previous Canadian decisions a few years at most and tend to be confined to well-documented Bureau decisions that the attorneys believe incorporate novel or noteworthy features. In short, with a handful of exceptions, enforcement commentaries tend to be Canada-centric, short sighted, and focused on a small number of non-representative cases.

Information currently available on the Bureau's Website makes temporal analyses problematic. It began publishing quarterly statistics on enforcement matters in August 2014.<sup>8</sup> These data cover only the years 2013–2015. Developing additional enforcement information would require obtaining Bureau older press releases, but these have been suppressed on the Bureau's Website prior to May 2000. Moreover, the reported statistics are mostly categorized by matters or cases, rather than more intuitive units like cartels and their participants. The Bureau's method of counting enforcement outcomes makes cross-country comparisons difficult.

This article assesses the anti-cartel enforcement record of the Bureau using a large, long-term, consistent, and internationally comparable data set. It statistically analyses a large sample of cartels using quantitative benchmarks. Similar assessments of cartel enforcement have been published in law reviews and journals of industrial economics. Schinkel presents abundant legal-economic data on the deterrence effects of the European Commission's (EC's) antitrust program for the years 1962–2006.<sup>9</sup> Sokol and Ghosal<sup>10</sup> empirically investigate US cartel enforcement patterns for 1965 to 2013, with an emphasis on their relationship to federal policy regimes.<sup>11</sup>

<sup>6</sup> See H. Wetston, *Canadian Competition Law: Current Issues in Conspiracy Law and Enforcement: Meredith Memorial Lectures* (delivered Nov. 1990) at McGill University, 33 (Montreal: Éditions Y. Blais 1991).

<sup>7</sup> See A. Banicevic & M. Katz, *Recent Developments in Canadian Cartel Enforcement*, Kluwer Competition Law Blog (21 Mar. 2016).

<sup>8</sup> Competition Bureau, *Competition Bureau Introduces Quarterly Report, Launches New Portal on International Activities* (29 Aug. 2015) <http://www.competitionbureau.gc.ca/eic/site/cb-c.nsf/eng/03806.html>.

<sup>9</sup> See M. P. Schinkel, *Effective Cartel Enforcement in Europe*, 30 *World Competition: L. & Econ. Rev.* 539–572 (Jan. 2007). See also C. Veljanovski, *Cartel Fines in Europe* 29 *World Competition: L. & Econ. Rev.* (2007), who authored a similar EC analysis.

<sup>10</sup> See D. Sokol & V. Ghosal, *Policy Innovations, Political Preferences, and Cartel Prosecutions*, 48 *Rev. Indus. Org.* 405–432 (2016). There is also a large empirical literature on the EU and US Leniency Program cited by Sokol and Ghosal at p. 407.

<sup>11</sup> A similar analysis was previously published for the United States (see J. Connor, *Anti-Cartel Enforcement by the DOJ: An Appraisal* 5 (1) *Competition L. Rev.* 89–121 (Dec. 2008a). file:///Users/JohnC/

A long-term evaluation of Canada's cartel enforcement is feasible because I have been keeping track of the Bureau's actions and private damages suits filed against international cartels since 1990.<sup>12</sup> These data cover cartels and their corporate and individual participants so as to facilitate cross-jurisdictional comparisons. I choose to focus on international cartels because they tend to be the best reported yet hardest to catch, most injurious, and most difficult to prosecute. International cartels tend to comprise more than 90% of the affected commerce, injuries, and penalties of all cartel activity in Canada.

### 1.1 OVERVIEW

After briefly describing Canadian anti-cartel law and surveying previously published discussions of Bureau performance, I focus on a 26-year retrospective of the Bureau's anti-cartel enforcement, employing several quantitative benchmarks. First, I examine the degree of enforcement effort by the Bureau over time. Second, I compare the Bureau's enforcement to some comparable international yardsticks. Third, I explore the relationship of Bureau actions to developments in private rights of damages. Finally, I develop and analyse measures of severity and recovery of the Bureau's cartel penalties.

### 1.2 MAJOR FINDINGS

Indicators of that assess the Bureau's anti-cartel campaign are mixed. On the positive side, since 2010, Canada's legal framework incorporates all the features the Bureau has asked for. Canadian monetary penalties on corporate cartelists have reached full disgorgement in the past decade, which is high compared to many other jurisdictions. With respect to fines, Canada has a middling international standing: its fines are more severe than in the European Union (EU) but less severe than in the United States. Negative features include a surprising party-driven instability in the Bureau's targeting of collusion (types, numbers, and sizes), very slow investigations, a long-standing tendency to fail to indict a large share of injurious cartels, weak penalties on individuals, and recovery of overcharges that is far below what is needed for deterrence.

---

Downloads/Vol5Iss1Art3Connor.pdf) and for selected Asian authorities, see J. Connor, *Global Antitrust Prosecutions of International Cartels: Focus on Asia*, World Competition 575–605 (Dec. 2008b).

<sup>12</sup> PIC data set, above n. 3.

## 2. CANADIAN CARTEL LAW AND ENFORCEMENT

### 2.1 CANADIAN ANTI-CARTEL LAW IN BRIEF

Canada's federal Competition Act ('the Act') was enacted in 1889.<sup>13</sup> Conspiracies that intentionally engaged in conduct that by design *unduly* diminished competition were deemed criminal acts for companies and individuals.<sup>14</sup> Bid rigging was declared a *per se* violation.<sup>15</sup> Fines for violators were initially very low; the statutory maximum was CAD 1 million until 1986, when it was raised to CAD 10 million per count.<sup>16</sup> However, cartel managers were exposed to up to two years imprisonment.<sup>17</sup> Unlike the United States, the provinces, smaller units of government, and private parties had no standing to prosecute alleged price fixers criminally.

The authority of the Bureau has been strengthened through several judicial decisions, changes in Bureau policies, and major amendments to the Act in 1998 and 2009. As a broad generalization, the Canadian anti-cartel enforcement regime was weakest (i.e. had the highest burden of proof) prior to 1986 and strongest from March 2010 forward.

In 1976, the Crown lost the *Atlantic Sugar* tacit-collusion case, which was affirmed by the Supreme Court in 1980, in part because of a lack of evidence of interfirm communications.<sup>18</sup> Because of this loss, prosecutions of cartels became increasingly difficult from the late 1970s through the late 1980s. In 1986, the Act greatly strengthened prosecution by removing the requirement that the undue lessening effect on competition conduct was *intentional*.<sup>19</sup> The year 1986 marks the first step in bringing

<sup>13</sup> See C. Halladay, *The Origins of Canada's Cartel Laws*, 25 Can. Competition L. Rev. 157–163 (2012). He notes that the Combinations in Restraint of Trade Act (the Act) came into force in May 1889, predating the Sherman Act by 14 months. However, W. Litman, *Congress and the Sherman Antitrust Law: 1887–1890*, 23 Uni. Chi. L. Rev. 221–258 (Winter, 1956), writes that more than a dozen states in the United States had enacted such statutes before 1889; indeed, the Massachusetts Constitution of 1780 prohibited monopolies. The US Congress began to consider antitrust bills around Jan. 1888. As the Halladay points out, the introduction of Canada's Act was strongly influenced by lengthy US Congressional debates on the Sherman Act, populist American rhetoric filtering across the ever-porous border, and parallel anti-trust and anti-combine discussions in Canada. Fear of dominance of Canadian markets by the huge monopolies being created in the United States explains Parliament's urgency in passing the Act with bipartisan support within a few months after a committee began studying the issue in late 1888.

<sup>14</sup> The two clauses, viz., intentionality and undue effect on prices, were overtly added by opponents of the Act to make prosecution difficult. These requirements for hard-core cartels disappeared in Mar. 2010.

<sup>15</sup> See Low & Halladay, above n. 5.

<sup>16</sup> This refers to the principal horizontal-restraints section, No. 45. Cartelists convicted under s. 46, which applies to foreign companies, have no upper limit on fines. And in 1998–2000, J. Rowley et al., *Recent Trends in the Prosecution of Cartels in Canada*, American Bar Association International Cartel Workshop 17–18 (Feb. 2002) report that the Bureau successfully sought multiple counts so as to break the USD 10-million upper limit.

<sup>17</sup> See D. Low et al., *Redesigning a Criminal Cartel Regime: The Canadian Conversion*, in *Criminalising Cartels: Critical Studies of an International Regulatory Movement* Ch. 4 (Beaton-Wells, Caron & Ariel Ezrachi eds, Oxford: Hart Publishing 2011). The maximum imprisonment was raised to five years in 1976 and to fourteen years in 2010.

<sup>18</sup> *Ibid.*, at 82.

<sup>19</sup> *Ibid.*, at fn. 46.

hard-core cartel enforcement in Canada towards one in which the Bureau had an evidentiary burden similar to the US DOJ and many other antitrust authorities.

In 1992, another Supreme Court decision (*PANS*) clarified the burden of proof necessary to satisfy the *undue competition* test.<sup>20</sup> However, the high evidentiary burden that accompanied the rule-of-reason analysis required by the *PANS* decision for price-fixing prosecutions prompted the Bureau to begin a campaign around 1993 for a per se standard for all types of collusion.<sup>21</sup> Despite a fair number of examples to the contrary, the Bureau argued that in contested hard-core cartel cases, the Act ‘did not work’.

An issue facing the Bureau in the 1980s and 1990s was the extent of extraterritorial limits to its prosecutorial authority in pursuing price-fixing allegations.<sup>22</sup> Up through the 1980s, Canada frequently exercised blocking statutes in price-fixing cases originating in the United States. A 1985 decision by the Supreme Court removed some of the uncertainty about Canadian indictments by outlining a sales-effects test. Section 46 of the Act specifically authorizes penalties for non-Canadian conspiracies.<sup>23</sup> The June 1993 guilty plea by Chemagro Ltd., a subsidiary of Germany-based Bayer AG in the *Insecticides* cartel case, seems to have put to rest concerns about the Bureau’s powers to prosecute cases originating abroad. By the mid-1990s, parallel Canadian and US prosecutions of international cartellists had become commonplace.

After many years of discussion and debate and in the face of strong opposition of business and some legal groups, the Act was amended in 2009. It further increases criminal price-fixing penalties and eases the standards of liability for criminal prosecution; a parallel civil track was created for mere parallelism.<sup>24</sup> As of March 2010, corporate fines were raised to a maximum of CAD 25 million per count, individual prison terms raised to a possible 14 years, and the undue-lessening-of-competition test for hard-core cartels was eliminated. Per se illegal offenses are now enumerated as agreements among competitors over control of price, control of supply, allocation of customers, or market quotas.<sup>25</sup> Bid rigging continues to be a per se offense, though the 2009 amendments expanded its definition slightly.<sup>26</sup>

<sup>20</sup> *Ibid.*, at 85–87. See also Low & Halladay, above n. 5, at 91, who opine that other stumbling blocks to greater deterrence include the ‘trial tactics’ (or superior lawyering) by defendants and ‘judicial reluctance to convict white-collar defendants’.

<sup>21</sup> Low et al., above n. 16, at 90–91.

<sup>22</sup> See C. Witterrick, *Regulation of Competition in the Canada/U.S. Context—Extraterritorial Reach of U.S. Antitrust Law—A Canadian Perspective* 24 Can.–U.S. L. J. 299–314 (Jan. 1998).

<sup>23</sup> S. 61 of the Act on horizontal price-maintenance is infrequently used in cartel cases.

<sup>24</sup> See A. Campbell & C. Halladay, *A New Era for Canadian Cartel Enforcement*. LEXPERT Online 94–96 (2011).

<sup>25</sup> Group boycotts are not listed in this section. Potential competitors are included. Non-enumerated horizontal agreements that are likely to lessen competition substantially will be treated as civil offenses.

<sup>26</sup> See Low & Halladay, above n. 5, at fn. 115: agreements to withdraw tender offers are now covered. And see Low & Halladay, above n. 5, at fn. 116, reporting that s. 46, a uniquely Canadian statute, remains, giving broad discretion in prosecuting foreign cartellists, making international cartels easier to penalize.

Overall, since 2010, Canadian antitrust law has grown more closely in harmony with US and EU competition laws. And Canada's Parliament sent the Bureau a strong signal to increase federal prosecutions and penalties for price fixing. Around the time of the 2009 amendment, the Commissioner of Competition promised that more and more difficult cases would be filed.<sup>27</sup> In the Commissioner's swan song in late 2012, without citing numerical trends, the Commissioner boasted of increased effectiveness in cartel enforcement and cartel deterrence, while at the same time warning of an unprecedented number of time-consuming contested cases.<sup>28</sup>

Another change that may assist in deterring cartels is the availability in Provincial courts of class-action private damages actions around 1992. Criminal convictions are *prima facie* evidence of the fact of collusion in private actions.<sup>29</sup> After a slow start, these actions (limited to single damages) became commonplace in and after the late 1990s, especially for international cartels with large affected sales: 'Private claims for damages are becoming the norm'.<sup>30</sup> Direct and indirect purchasers have standing to sue for single damages.

## 2.2 PREVIOUS STUDIES OF ENFORCEMENT PATTERNS

### 2.2[a] *Cartel Cases and Corporate Penalties*

Gourley (2001), in a report prepared for the Bureau, analyses a sample Canadian price-fixing actions from 1905 to as late as 1997.<sup>31</sup> He notes that the number of price-fixing conspiracy cases prosecuted in Canada in 1905 to 1969 was about 6% of the number of equivalent cases in the United States.<sup>32</sup> During 1991–1999, the ratio was 4%.<sup>33</sup> Gourley concludes from these small ratios that '[c]learly, ... Canada

<sup>27</sup> See M. Aitken, *Speech to the Canadian Bar Association Competition Law Section Annual Conference* (25 Sept. 2009).

<sup>28</sup> See M. Aitken, *Remarks by Melanie L. Aitken, Commissioner of Competition*, Keynote Speech at the Canadian Bar Association 2011 Fall Conference, Hilton Lac-Leamy, Quebec (6 Oct. 2011a), <http://www.competitionbureau.gc.ca/eic/site/cb-bc.nsf/eng/03424.html>.

<sup>29</sup> See C. Goldman & N. Joneja, *Institutional Design of Canadian Competition Law: The Evolving Role of the Commissioner*. 41 *Loyola U.y Chi. L. J.* 535–572, 545(Spring 2010) .

<sup>30</sup> See Rowley et al., above n. 16.

<sup>31</sup> See A. Gourley, *A Report on Canada's Conspiracy Law: 1889–2001 and Beyond* (Toronto: Macleod Dixon Aug. 2001), [http://competitionbureau.gc.ca/eic/site/cb-bc.nsf/vwapj/gourleyrep.pdf/\\$FILE/gourleyrep.pdf](http://competitionbureau.gc.ca/eic/site/cb-bc.nsf/vwapj/gourleyrep.pdf/$FILE/gourleyrep.pdf), Appendix 1, showing that were fifty-three cartels indicted, or 0.49 per year since 1889. The first decision was in 1905. Gourley's data set appears to be a sample of the legally 'more important' cartel cases decided by the courts. H. Chandler & R. Jackson, *Beyond Merriment and Diversion: The Treatment of Conspiracies under Canada's Competition Act*. Paper Presented at the Roundtable on Competition Act Amendments, Insight Conferences, Toronto, Ontario (25 May 2000) is a *comprehensive* list of 75 horizontal price-fixing cases concluded by the Bureau from Jan. 1980 to May 2000. During those 1980–1997, Chandler and Jackson identified 63 cases, compared to Gurley's data count of only 14 cases, or 22% of the whole.

<sup>32</sup> Gourley, above n. 32, at 2.

<sup>33</sup> *Ibid.*, at fn. 9.

has been less active than the United States'.<sup>34</sup> This study also presents data showing that Crown prosecutors won only 40% of the cases decided and that after 1970 the conviction rate fell to 17% of the cases decided.<sup>35</sup> This lack of success in the courts Gourley attributes primarily to the requirement that undue impact had to be proved.<sup>36</sup>

The Crown did win some important cartel cases prior to 1990. *Container Materials*, decided by the Supreme Court in 1942, is one landmark victory.<sup>37</sup> In this case, cardboard box manufacturers with a near monopoly of the national market created a monopoly supplier of fibreboard, the key input in box making. The Court's decision ignored or obfuscated the need to prove intentional, undue horizontal market restraints.

Gourley also notes the low fines imposed by the courts in the early years. The mean average cartel fine in 1985–1991 was CAD 125,000; the maximum fine was CAD 400,000 on the *Flour* cartel in 1990.<sup>38</sup> He speculates that, given the large sales and 12-year duration, the *Flour* cartelists convicted in 1990 reaped USD 50 to USD 100 million in monopoly profits. Not only did the fine compensate taxpayers less than 1% of damages, but also under the principles of optimal deterrence, the *Flour* cartel's penalties were woefully inadequate.<sup>39</sup>

Chandler and Jackson's compilation of 21.4 years of the Bureau's price-fixing cases (1980–May 2000) shows that of the 75 cases concluded, 27% were bid-rigging and that 68% resulted in convictions (of which 84% were guilty pleas).<sup>40</sup> That amounts to 2.9 cartel convictions per year on average. Every guilty plea or contested conviction ('guilty' cartel) resulted in monetary fines. The total fines paid by cartelists during the entire 21.4 years were CAD 180.6 million, or about USD 8.4 million per year and USD 3.5 million per guilty cartel.

Stanbury shows that the number of price-fixing cases varied little by semi-decade from 1986 to 1996; the average was about 3.5 per year.<sup>41</sup> Price-fixing fines

<sup>34</sup> *Ibid.*, at 3. This inference may reflect the fact that the Canadian economy has a GDP relative to the US GDP, which is in the 5% to 7% range. On the other hand, the number of industries or markets seems to be relatively similar in the two economies, and a high degree of foreign direct investment means that many cartelists straddle the border.

<sup>35</sup> *Ibid.*, at Appendix 1. Like the United States, Canada's Crown prosecutors historically relied heavily on plea agreements and prohibition orders to prosecute cartelists. Gourley, above n. 32, expresses a preference for analyses based on contested cases rather than negotiated settlements.

<sup>36</sup> Moreover, the low ratios were the result of prosecutorial discretion. Gourley, above n. 32, at fn. 14 cites with approval a quote from a textbook that at least through 1960 prosecutors selected cases in which the participants comprised nearly the entire industry and admitted to long-lasting conspiracies. In other words, they selected brazen cases easy to prosecute.

<sup>37</sup> Halladay, above n. 14, at 160.

<sup>38</sup> Gourley, above n. 32, at fn. 15.

<sup>39</sup> Wetston, above n. 7.

<sup>40</sup> Chandler & Jackson, above n. 32.

<sup>41</sup> W. Stanbury, *Legislation to Control Agreements in Restraint of Trade in Canada: Review of the Historical Record and Proposals for Reform*, in *Canadian Competition Law and Policy at the Centenary* 61–148, Table IV (Montreal: The Institute for Research on Public Policy 1991).

per cartel and per firm rose strongly in the early 1990s relative to earlier years, but that could be an artefact of higher affected sales.<sup>42</sup> Stanbury also asserts based on unpublished Bureau data that the *severity* of cartel fines rose markedly from 7.2% of affected sales in *Compressed Gases* (completed in 1993) to averages of 12% to 30% in 'later cases;' the record high is 40% in the 1996 *Ciment Quebec* case.<sup>43</sup>

Conducting a long-term analysis of cartel convictions and penalties is hobbled by the erasure of press releases or other historical data prior to May 2008 from the Bureau's Website.<sup>44</sup> Unaccountably, even the Bureau's internal study of case outcomes in 1980–May 2000 has been expunged and is unavailable elsewhere.<sup>45</sup> This policy militates against transparency and accountability.

In the 1990s, Crown prosecutors habitually demanded fines equal to 20% of affected sales, except after 1993 for those companies that were immunized or granted leniency reductions.<sup>46</sup> This policy is said to continue with refinements today.<sup>47</sup> Fines equal to 20% of sales are high by global antitrust standards. The maximum leniency discount is stated to be 50% for the first firm to qualify for leniency and 30% for the second to qualify. Actual discounts tend to be much smaller.

Low and Halladay identify the year 1993 as the threshold of 'an enormously successful period of cartel enforcement which continues to this day'.<sup>48</sup> This was the year that the Bureau adopted its first Immunity and Leniency Program<sup>49</sup> and the standards of proof for price fixing were clarified by the *PANS* decision. Average fines were indeed much higher in the 7.4 years after 1992: CAD 23.17 million per year and USD 6.1 million per guilty cartel – more than 30 times higher per year and 19 times higher per cartel than in 1980–1992.<sup>50</sup>

Prosecutions of cartels with one or more foreign-based cartel participant began as early as 1991 with the *Compressed Gases* case in which all five participants were foreign owned; this is one definition of an 'international cartel' case.<sup>51</sup> By

<sup>42</sup> *Ibid.*, at Table V.

<sup>43</sup> *Ibid.*, at 228. The years are not specified.

<sup>44</sup> <http://www.competitionbureau.gc.ca/eic/site/cb-bc.nsf/eng/01863.html>.

<sup>45</sup> Chandler & Jackson, above n. 32.

<sup>46</sup> Connor, above n. 3, at 102.

<sup>47</sup> Competition Bureau. *Leniency Program Bulletin* s. 3.3 (29 Sept. 2010) [http://www.competitionbureau.gc.ca/eic/site/cb-bc.nsf/eng/03288.html#s3\\_3](http://www.competitionbureau.gc.ca/eic/site/cb-bc.nsf/eng/03288.html#s3_3).

<sup>48</sup> See Low & Halladay, above n. 5, at 90.

<sup>49</sup> See Rowley, above n. 16, at 18, which shows that the 1993–1999 Program yielded relatively few applicants.

<sup>50</sup> Chandler & Jackson, above n. 32, at Appendix 1. The increase is in part due to general inflation and rising affected sales over time.

<sup>51</sup> See Rowley et al., above n. 16, at Appendix B. Records of foreign ownership in cartels before 1990 are difficult to obtain. Two more international cases followed quickly thereafter. The 1993 *Insecticide* cartel contained one German-owned Canadian subsidiary. *Insecticides* may have been preceded by the 1992–1995 *Pulp Baling Wire* case, where one of the defendants seems to have been US-owned.

2001 at least thirty-seven foreign companies (or their Canadian subsidiaries) had been fined. *Severity* varied widely, but (excluding inability-to-pay cases) the mean average fine/sales ratio in 1991–2001 was 21.3%. Fines climbed through 1998–2002, as huge global conspiracies were discovered and penalized: *Vitamins*, *Graphite Electrodes*, *Citric Acid*, and *Lysine* are frequently highlighted.<sup>52</sup>

Ross brings an economist's perspective in assessing the state of competition policy and enforcement up to 2003.<sup>53</sup> He argues that cartel and merger enforcement since at least 1986 has significantly ameliorated the high degree of industrial concentration found in Canada. Large cartel fines imposed in the 1990s raised the public profile of antitrust enforcement among Canadians and contributed to greater market efficiencies. Though modest in size, the Competition Bureau is modern, independent, professional, and well regarded internationally. Ross states a couple of concerns about Bureau enforcement: (1) the small numbers of fully trained economists (Table 4) and (2) the high burden of proof of the undue-lessening-of-competition requirement (relaxed in 2010).

The Immunity Program was revised and clarified in a September 2000 Bulletin, which has been frequently re-issued without revisions. About twelve applications were received in its first year, which was a large increase over 1993–1999.<sup>54</sup> Those cartelists that are the second and third to apply will, under certain conditions, be granted leniency that may reduce their fines to 12% and 20% of sales, respectively. Subsequent cartelists ('tardy firms') receive little or no leniency and are fined at the 30% to 40% levels. Individual penalties may rise for culpable employees of tardy companies; an exception arises in the case of tardy firms that qualify for 'Amnesty-Plus'.<sup>55</sup>

The Bureau promised to initiate a larger number of cartel investigations after the 2009 amendments. An examination of five-and-one-half years (January 2009 to July 2014) of enforcement statistics on the Bureau praises its 'vigorous and consistent approach to enforcing [the relevant sections of the Competition Act]'.<sup>56</sup> The author is particularly impressed by the large number of immunity and leniency applications processed and penalties imposed on individuals.<sup>57</sup> In

<sup>52</sup> *Ibid.*, at 17–18.

<sup>53</sup> T. Ross, *Viewpoint: Canadian Competition Policy: Progress and Prospects*, 37 *Can. J. Econ.* 243–268 (2004).

<sup>54</sup> See Rowley et al., above n. 16, at 18–20.

<sup>55</sup> *Ibid.* Tardy firms in one cartelized market that receive immunity for collusion in an unrelated market will also receive a discount on their fines in the first market.

<sup>56</sup> See G. LoPatriello, *Cuffs and Compliance: A Five-Year Retrospective of Criminal Anti-Cartel Competition Law Enforcement in Canada*, (1) *CPI Antitrust Chronicle* 1–6 (Aug. 2014). The author is a Competition Law Officer at the Bureau.

<sup>57</sup> *Ibid.*, Table 1 assembles but does not comment on any increase in the size of cartel fines after 2009. They averaged during 2010–2014 CAD17.76 million per year or USD1.5 million per cartel (not per cartel). Annual cartel fines in 2010–2014 were actually 23% lower than 1993–May 2000, but the earlier period includes the blockbuster *Vitamins* fines in 1999–2000 (Connor 2008: 383–384).

the years 2009–2014, immunity grants rose to 56 per year – roughly quintuple the rate in 2000–2001; leniency grants rose to 20 per year.<sup>58</sup>

### 2.2[b] *Individual Penalties*

Prison sentences (of up to two years or more) and fines have been permitted for convicted cartel executives and managers since the beginning of the Act in 1889. However, more than one commentator has noted that the Canadian judiciary has a marked reluctance to impose confinement in a prison for individual cartelists. Instead, small fines are meted out along with occasional probationary sentences or community service. Even after the 2009 amendment to the Act that raised the maximum fine to 14 years imprisonment, I am able to find only one price-fixing sentence for confinement, and that was for six months of house arrest.<sup>59</sup> Fines are likewise lenient, typically CAD 10,000 to CAD 30,000.

In contrast, the US judiciary has imposed significant prison sentences on several hundred cartelists in the past 40 years. While most were negotiated guilty pleas, the majority of contested cases resulted in prison sentences. For the first time, Canada extradited a Canadian businessman to the United States for an antitrust-related offense. John A. Bennett, the CEO of Bennett Environmental Inc., was charged with bid rigging a US federal government tender for a USD 43-million contract for environmental remediation at a Superfund clean-up site that cost in total USD 300 million.<sup>60</sup> He was extradited in November 2014 and found guilty by a US jury in March 2016.<sup>61</sup> In August 2016, he was sentenced to 63 months in prison.

### 2.3[c] *Bureau Resources and Competency*

The Bureau is part of a federal Department, Industry Canada (now renamed Innovation, Science, and Economic Development). Besides anti-cartel activities, the Bureau enforces mergers, monopoly, banking competition, and consumer protection laws and advocates for these laws.<sup>62</sup> The Commissioner of Competition is appointed for a term of five years by the Cabinet, but the degree

<sup>58</sup> *Ibid.*

<sup>59</sup> On 21 May 2015, Stephen Forgie received an 18-month conditional sentence with the first six months of house arrest for bid rigging a tender from the federal government, <http://www.competitionbureau.gc.ca/eic/site/cb-bc.nsf/eng/03936.html>.

<sup>60</sup> J. O'Sullivan, *NJ Superfund Subcontractor Convicted in Bid-Rigging Case*, Law 360 (16 Mar. 2016). The charges include wire fraud.

<sup>61</sup> *Ibid.*

<sup>62</sup> See Goldman & Joneja, above n. 29.

of independence in carrying out investigations is unknown.<sup>63</sup> Like the US DOJ, the Prime Minister and the Commissioner may influence the Bureau's priorities, such as types of cartels or industries on which to focus prosecutorial resources. The Bureau's civil decisions are forwarded as applications to the Competition Tribunal, but criminal matters are sent to the Attorney General, where they are screened and prosecuted by a bureau of dedicated antitrust lawyers in the Public Prosecution Service of the Ministry of Justice.

Stanbury reviews the responsibilities and quantity of resources available to the Bureau.<sup>64</sup> He opines that the 1986 revisions to the Act and deregulation of industries significantly expanded the range and size of industries being overseen in the 1980s and 1990s. The trends in other measures of demand for Bureau services are ambiguous.<sup>65</sup> Input costs rose faster than the Bureau's budget, which was virtually constant in real and in terms of Full-Time-Equivalent positions.<sup>66</sup> As a consequence, the Bureau developed case-screening criteria for criminal allegations. Investigations are more likely if affected commerce large and overcharges are high; then it considers whether the case might break new enforcement ground (e. g. novel jurisprudence issues, highly covert conduct, or public sensitivity); last it considers probable Bureau costs. To compensate for declining resources, the policy of Commissioners von Finkelstein and his predecessor was to request more severe fines and charge more individuals.

In 2012, criminal enforcement of the Act was carried out by approximately 40 Bureau officers.<sup>67</sup> Unlike most other antitrust authorities, the Bureau has few litigators embedded in its organization; rather, appearances in the courts are made by about 20 attorneys in Canada's Public Prosecution Service, most of them specialized in competition law. Investigations are sometimes aided by detachments from the Royal Canadian Mounted Police.

A couple of recent international-cartel investigations have called into question the judgment, preparedness, and competency of the Bureau's legal teams in winning contested cases. One case, which fell under the Act prior to the 2009 amendments, was *Chocolate* (Knox 2013).<sup>68</sup> The investigation of

<sup>63</sup> An OECD (2004) external review of Canada's competition laws stated that the ministerial relationship is 'an increasingly important concern ... [that] undermines the Commissioner's credibility' (p. 9).

<sup>64</sup> Stanbury, above n. 41.

<sup>65</sup> *Ibid.*, at Table 2.

<sup>66</sup> For facts in this paragraph, *Ibid.*, at Table 1 and 222–224. The number of authorized FTEs rose from 59 in FY 1964–1965, peaked in 1978–1979 at 276, and fell about 10% by the late 1990s. In 1995, the Bureau closed all seven remaining regional offices; six others were closed during 1985–1994.

<sup>67</sup> Low et al., above n. 16 and Connor 2008 op cit. Proportional to the sizes of two economies, the Bureau's criminal resources are higher than those of the US Antitrust Division, which has about 200 attorneys devoted to cartel enforcement.

<sup>68</sup> See R. Knox, *The Chocolate Test*, Global Competition Rev. (25 July 2013). <http://globalcompetitionreview.com/features/article/33887/chocolate-test>

parallel pricing conduct of five firms in 2005–2007 began in 2007 or 2008 with an immunity application by Cadbury, followed by a 2011 amnesty application by Hershey. The other three firms and their managers were indicted in June 2013, but prepared to go to trial. Despite the cooperation of two of the presumptive conspirators, with proof of intentional harm required of the prosecutors, they abandoned the long-running case in 2015 in this huge market (affected commerce of about USD 6 billion).<sup>69</sup>

A second case (*Durward*) was a more embarrassing loss to the Government. Nine firms (two headquartered in the United States) and thirteen individuals were suspected of rigging bids in 2005 for USD 67-million worth of IT services for a federal government agency, conduct which, if secret, is a per se offense.<sup>70</sup> Prosecution began in 2005. Heavy press coverage of the two corporate and individual trials expressed puzzlement over the expensive, complex, and lengthy (eight-month) proceedings and dismay at the outcomes.<sup>71</sup> In one trial all nine defendants were acquitted; shortly thereafter, the bench trial was abandoned.<sup>72</sup> Two executives paid very small restitutions. Banicevic and Katz conclude that both *Chocolate* and *Durward* were serious setbacks for the Bureau and the Prosecution Service.<sup>73</sup>

One way of leveraging limited Bureau resources is through international cooperation. The Bureau signed a memorandum of understanding (MOU) with the DOJ in 1984 that permitted the two agencies to jointly investigate international cartels of mutual interest.<sup>74</sup> This was followed up with formal mutual assistance antitrust agreement with the US DOJ in 1991 and similar agreements with several other antitrust authorities. Partly as a result, the Bureau launched a period – unique in its history – of high-profile prosecutions of global cartels (discussed in detail below). In an unprecedented move, in July 1999, the Bureau and the DOJ jointly announced fines on Kanzaki Specialty Papers for collusion in the *Fax Paper* cartel. In that same year, the Bureau was alerted by the US DOJ to the vast *Bulk Vitamins* cartels. The Bureau has participated in a dozen or so internationally coordinated raids on suspected global cartelists.

<sup>69</sup> See *ibid.*, who hints that econometric evidence of injuries was weak. The US DOJ closed its criminal probe quickly, and a US private damages case got a modest settlement only from Cadbury. However, the Canadian private case extracted very substantial awards from four chocolate firms.

<sup>70</sup> *Ibid.*

<sup>71</sup> For example, see <http://ottawacitizen.com/news/national/lost-decade-a-mega-trial-over-alleged-bid-rigging-should-never-have-happened>. Virtually all defendants were acquitted at trial.

<sup>72</sup> See Lexpert. Jury issues 'not guilty' verdicts in *R. v. Durward*. *Lexpert* (Sept. 2015).

<sup>73</sup> See Banicevic & Katz, above n. 7.

<sup>74</sup> See *FTC: Watch, Increased Cross-Border Enforcement Coordination* FTC: Watch No. 425 (19 Dec. 1994), <http://ftcwatch.com/ftcwatch-no-425/>.

Cooperation is a two-way street. In the equally massive *Auto Parts* ‘super-cartel’, press reports suggest that it was a 2007 immunity application in Canada that was the initial spark in the worldwide conflagration of prosecutions that followed the joint Canada-EU-US raids of 2 February 2010.<sup>75</sup> However, *Auto Parts* aside, press releases of antitrust agencies less frequently mention of joint raids and high-level cooperation with sister agencies in cartel prosecutions in the past decade or so than before.

### 3. BENCHMARKS FOR CARTEL AND ENFORCEMENT ACTIVITY

I develop and calculate a number of quantifiable measures of enforcement output and productivity by the Bureau that are typical in appraisals of antitrust authorities.<sup>76</sup> The focus will be on the number and affected-sales size of discovered international cartels, overcharges generated (where known), and the size and severity of government monetary penalties imposed. Measures like case counts and won/loss records are eschewed.<sup>77</sup> Comparisons with other antitrust authorities will be offered. The time period is 1990 to 2015.

I draw most information from the *Private International Cartels* (PIC) data set, 2016 Edition.<sup>78</sup> In this article, international cartels are those with at least one non-Canadian defendant (almost always a corporate defendant). A working article explains in detail how PIC data are collected and organized.<sup>79</sup> On the one hand, this approach has the advantage of concentrating on the largest and most injurious cartels and the ones hardest to prosecute. On the other hand, it ignores smaller domestic cartels that may be quite time consuming for the Bureau, like *Quebec Petroleum*.

#### 3.1 CANADIAN ENFORCEMENT OVER TIME: 1990–2015

In this section, I examine several conventional, quantifiable benchmarks of enforcement outcomes using 26 years of data.

The Bureau implemented its first price-fixing leniency program in 1993, but the immunity and leniency programs were made more effective in 2001. The 1998 and 2009 amendments to the Act also raised expectations about the Bureau’s activism. Observers expected a significant uptick in cartels detected

<sup>75</sup> See J. Connor, *Is Auto Parts Evolving into a Supercartel?*: AAI Working Paper No. 13-04 (28 Aug. 2013), <http://www.antitrustinstitute.org/~antitrust/sites/default/files/WorkingPaper13-04.pdf>.

<sup>76</sup> See Connor, above n. 12.

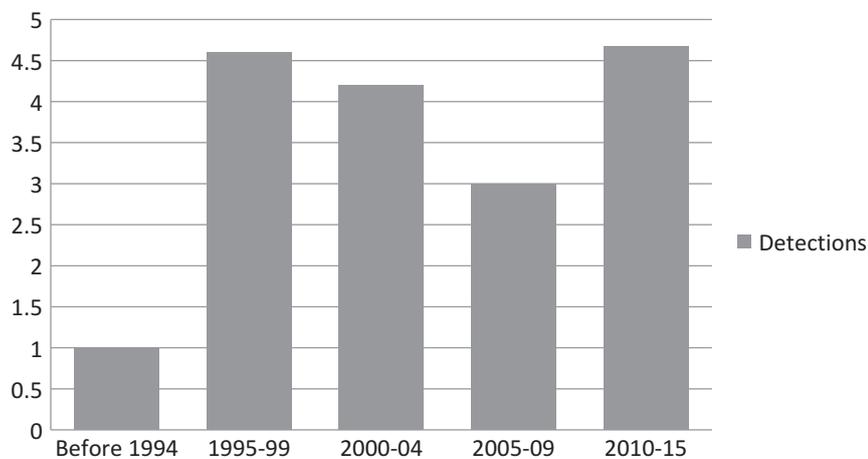
<sup>77</sup> The Bureau’s statistics of this sort prior to 2000 have been removed from its Website.

<sup>78</sup> PIC data set, above n. 3.

<sup>79</sup> PIC data set, above n. 3.

after 2000 in particular, but this has not happened (Figure 2).<sup>80</sup> Since 1995, the number of annual detections of cartels has averaged between 4.2 and 4.7 in every semi-decade, except for a dip to only 3.0 per year in 2005–2009. Unless Bureau resources contracted, this outcome is unexpected and rather puzzling.

Figure 2: International Cartel Detections per year by Canada Peaked 2010–2015

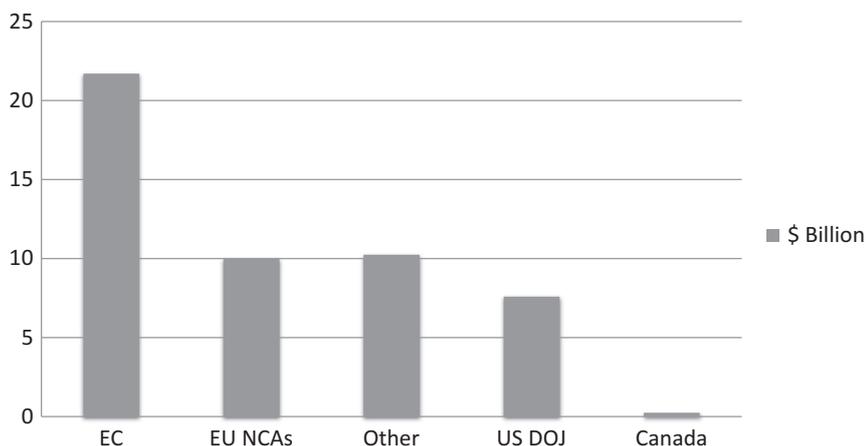


One measure of Bureau efficiency is the time it takes to investigate allegations up to the date the first cartelists pleads guilty. The mean Canadian delay for a sample of 48 cartels is 34.0 months. The mean for the US DOJ is 19.8 months. This disparity is puzzling, as the Bureau convicts most cartelists using guilty pleas, just like the US DOJ. The Bureau is almost as slow as the EC, which takes 37 months between a raid and a decision.

Government fines imposed on international cartels during 1990–2015 exceed USD 50 billion (Figure 3). The Bureau accounts for less than 1% of the worldwide total. Moreover, as data in the next section demonstrate, it has not kept pace with fines imposed by other authorities.

<sup>80</sup> All figures are based on the aforementioned PIC data set, above n. 3. Detection and convictions of corporate cartelists in Canada typically unfold over few months and occasionally up to a couple of years. Note that the year used for categorizing cartel detections is the year that the *first* 'raid' (or announcement of an investigation) becomes public. Similarly, the year a cartel is convicted is the year the *first* company in the cartel is convicted. Thus the years shown in this paper's figures and tables may not correspond precisely to the Bureau's own statistics.

Figure 3: Government Fines Imposed on International Cartels Highest in EU



Canada's enforcement regime falls neatly into three periods demarcated by two amendments to the Act: 1990–1999, 2000–2009, and 2010–2015.<sup>81</sup> Average fines per cartel in those three eras were USD 5.40 million, USD 2.85 million, and USD 6.07 million (Table 2). Adjusting for general inflation, fines per cartel were *lower after 2009 than before 2000*. There may be many reasons for this trend, but support of Parliament and the size of cartels are not among them.

To see whether political appointments, party affiliation, or a Commissioner's preferences can explain the rigor anti-cartel enforcement, Table 2 divided Bureau decision-making activity into the six Commissionerships falling within 1990–2015.<sup>82</sup> Wetstone was appointed by a Conservative PM; Addy, von Finkenstein, and Scott by two Liberals; and Aitken and Pecman served under a Conservative PM (Table 1). Party affiliation may explain some of the variation in enforcement (Table 2).

<sup>81</sup> The period beginning in 2000 is roughly when the Bureau began to get a flood of applicants from its improved Immunity and Leniency programs, and 2010–2015 corresponds to the relaxation of proof for price-fixing cartels.

<sup>82</sup> A seventh Commissioner, Francine Matte, the former Senior Deputy Director of Investigation and Research under George Addy, served out the last year or so of Addy's five-year term in 1996–1997. Note that the titles of the heads of the Bureau changed slightly during von Finkenstein's administration.

Table 1: Canadian Competition Commissioners, 1990–2016

Name	Dates	Party, PM	Notes
Howard I. Wetston (DIR)	1989–1/1993	Mulroney, Conservative, 9/84–6/93	Provincial Crown Counsel
George N. Addy (DIR)	2/1993–1/1997	Chrétien, Liberal, 11/93–12/03	Coordinated fines with DOJ on Kanzaki Papers, <i>Fax Paper</i> cartel et al.
Konrad von Finckenstein (DIR, then Commissioner)	2/1997–12/2003	Chrétien, Liberal, 11/93–12/03	Bureau insider, then judge. Strong record of indicting large global car- tels in tandem with the US DOJ.
Sheridan Scott	1/2004–12/2008	Martin, Liberal, 12/03–2/06	From Bell Canada
Melanie L. Aitken	1/2009–9/2012	Harper, Conservative, 2/06–11/15	Bureau insider, short tenure
John Pecman	10/2012–10/2015	Harper, Conservative, 2/06–11/15	Bureau insider
John Pecman	11/2015–present	J. Trudeau, Liberal, 11/15–2016	

Source: John M. Connor, *Private International Cartels* spreadsheet (April 2016).

First, in terms of *numbers of cartels* fined, there is an evident upswing from Wetstone (PM Mulroney) to both Addy and von Finkenstein (PM Chrétien). The numbers penalized peaked with von Finkenstein, but he may have lucked out by having the fifteen *Vitamins* cartels thrust upon the Bureau by an Immunity applicant. Scott, working under PM Martin, has numbers that nearly match her predecessor's. Numbers of convictions decline on a total and per annum basis during the Harper administration, with Pecman's numbers slightly more robust than Aitken's.<sup>83</sup>

Second, another useful measure of enforcement outcome in a criminal-law regime is the *number of companies* indicted or convicted. There are fixed costs associated with indicting alleged cartelists. Figure 4 shows that the number of corporate convictions averaged just under six per year during 1990–2015. The trend in number of companies parallels that of the number

<sup>83</sup> Aitken's term was 25% shorter than the normal Commissioner's term of five years; as of mid-2016, Pecman's is a few months' shorter. Pecman is the first economist to be Commissioner.

Table 2: Penalized International Cartels, 1990–2015

Year, 1 <sup>st</sup> Penalty	Num-ber	Aff. Sales	Bureau Fines	Fines/Cartel	Fines' Severity	No./Year	Notes <sup>a</sup>
USD Million							
1990–1994	6	247	12.19	2.03	4.94	1.2	
1995–1999	21	1112	133.58	6.36	12.01	4.2	1 consent
2000–2004	8	1454	9.84	1.23	0.68	1.6	
2005–2009	21	22,200	72.77	3.30	0.33	4.2	
2010–2012	7	2706	15.50	2.21	0.57	1.4	
2013–2015	12	381,902	99.95	8.33	0.026	2.4	1 consent; excludes FOREX <sup>b</sup>
Investigations uncompleted 2016	17		NA				Mostly <i>Auto Parts</i>
Total Penalized	77	409,620	353.13	4.65	0.086	3.0	2 consent
<b>Penalties by Commissioner:</b>							
Weston	2	207.7	5.7	2.85	2.74	0.4	Pre-1998 law
Addy	7	142.6	12.4	1.81	8.70	1.4	Pre-1998 law
Konrad von Finckenstein	25	2211.7	141.1	5.64	6.38	5.0	Includes 15 <i>Vitamins</i> cases
Sheridan Scott	20	9246.0	53.8	2.69	0.58	4.0	
Melanie L. Aitken	11	15,911	40.2	3.65	0.25	2.9	Post-2009 law
John Pecman	12	381,902	100.0	8.33	0.026	3.7	Post-2009 law; excludes FOREX <sup>b</sup>
Total	77	409,620	353.13	4.59	0.086	3.0	

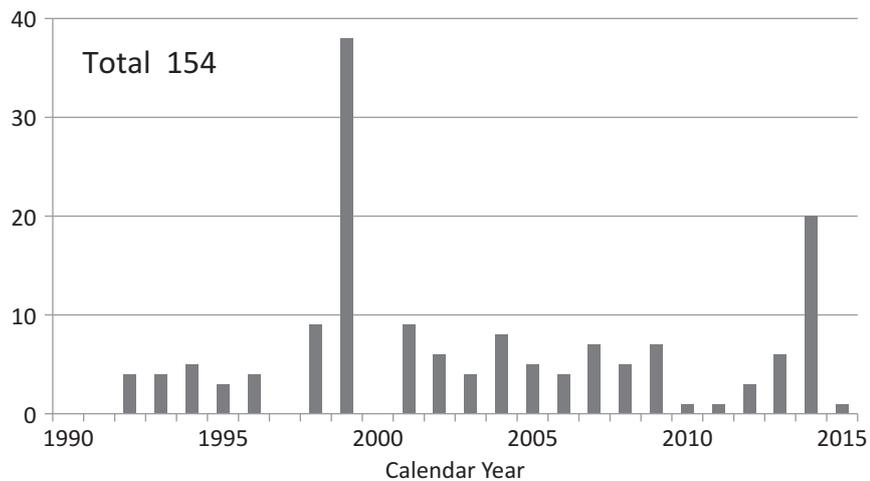
<sup>a</sup>Two cartels were penalized solely with non-monetary consent decrees.

<sup>b</sup>FOREX preliminary sales estimate is \$30 trillion – probably too high.

Source: John M. Connor, *Private International Cartels* spreadsheet (April 2016)

of cartels just discussed. There was a peak in 1999–2001 (the von Finkenstein years) and a low point during 2010–2012 (the Aitken administration).

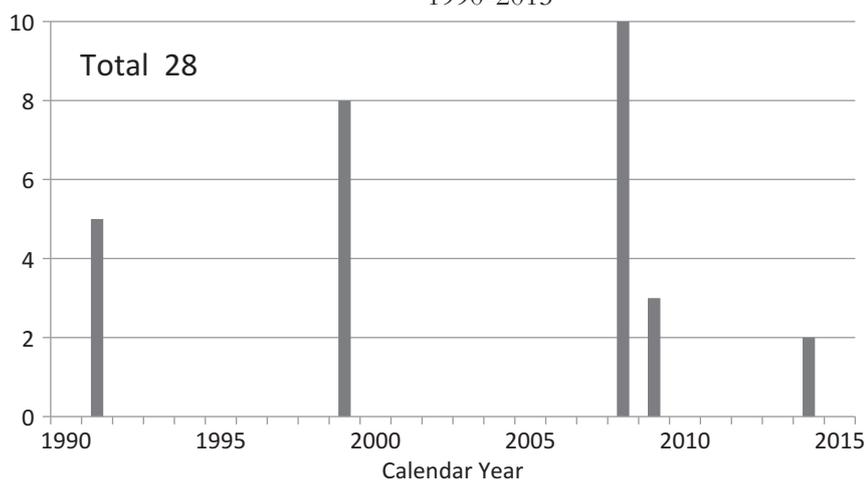
Figure 4: Number of Corporations Penalized for Intl. Price Fixing, Canada, 1990–2015



Third, the *number of cartel managers* convicted is a potentially useful indicator of enforcement outcomes, which is commonly cited by commentators of the US DOJ's anti-cartel program.<sup>84</sup> However, the Canada's historical record of penalizing cartel managers is spotty (Figure 5). A total of twenty-eight executives of international cartels have been fined or given conditional prison sentences. None have been confined to prison. Brief bursts of individual penalties occurred in the von Finkenstein and Scott commissionerships.

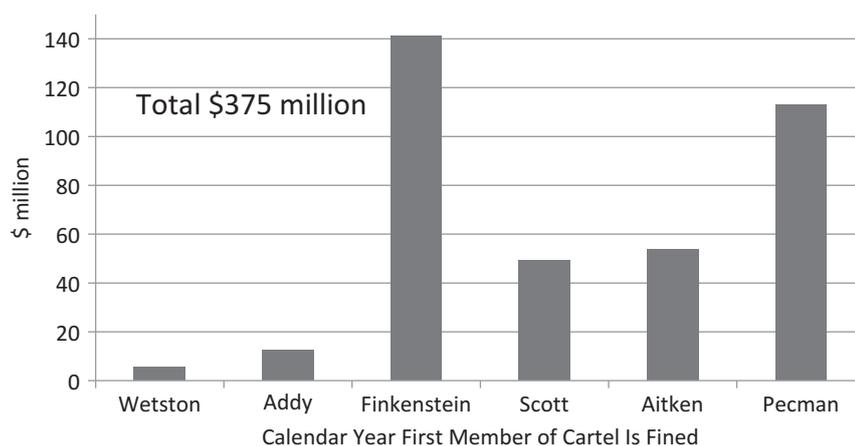
<sup>84</sup> See Connor 2008a op cit.

Figure 5: Number of Executives Penalized for Intl. Price Fixing, Canada, 1990-2015



Fourth, by the measure of *total cartel fines* imposed, von Finkenstein again – aided by the sprawling, durable *Bulk Vitamins* cartels – comes out on top (Figure 6). His Commissionership vastly increased fines: more than ten times Addy's and twenty-five times Wetstone's (Table 2). The two following Commissioners' fines dropped to about one-third of von Finkenstein's record. Pecman's term has seen a resurgence in total fines.

Figure 6: Cartel Fines, 1990-Oct. 2016, CANADA, by Commissioner

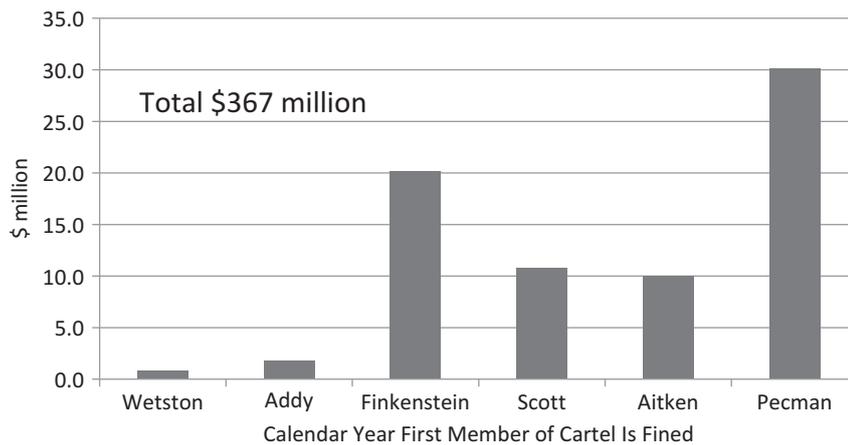


There is a distinct but not overwhelming difference in the size of cartel fines by political party. Overall, the annual average cartel fines imposed during

the 13 years of Liberal Party rule (USD 15.95 million) was 42% higher than the 13 years of Conservative rule.<sup>85</sup> If this pattern has predictive value, then the November 2015 ascension to office by Prime Minister Justin Trudeau of the Liberal Party presages a greater enforcement activity by the Bureau in the next few years.

Because of some slight differences in the length of administrations, a better comparative metric is total *annualized fines*. The resulting pattern over the years 1990 to 2015 is a spike in Canadian cartel fines in the late 1990s, a drop in the late 2000s, and a second lower spike in the past four years (Figure 7).

Figure 7: Cartel Fines, 1990-2016, CANADA, Annual Average, by Commissioner



By contrast, in both the United States and the EU, annual cartel fines show a seemingly inexorable upward thrust, regardless of political administration (Figures 8 and 9). Each American President (through his appointed Antitrust Division chief) imposes greater fines than his predecessor, and he outdoes himself in his second term compared to his first term.

<sup>85</sup> Because the Conservative-appointed Commissioners imposed fines in more recent (deflated) dollars, if one adjusts for general inflation the Liberal Party advantage is about 50%. Another factor that suggests greater enforcement aggressiveness is that when the Conservative Party controlled Parliament, Aitken and Pecman benefitted from a markedly greater prosecution-friendly legal environment than the three prior Liberal Party Commissioners.

Figure 8: Announced Cartel Fines, 1990–Oct. 2016, U.S. GOVT., Annual Average, by President

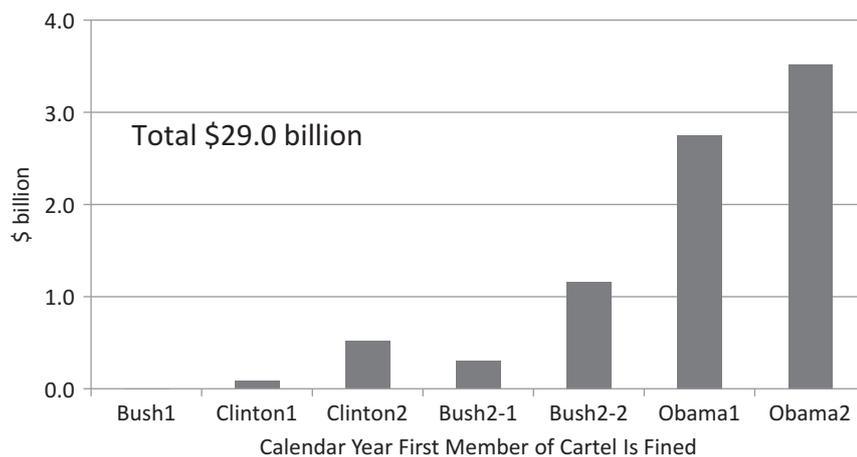
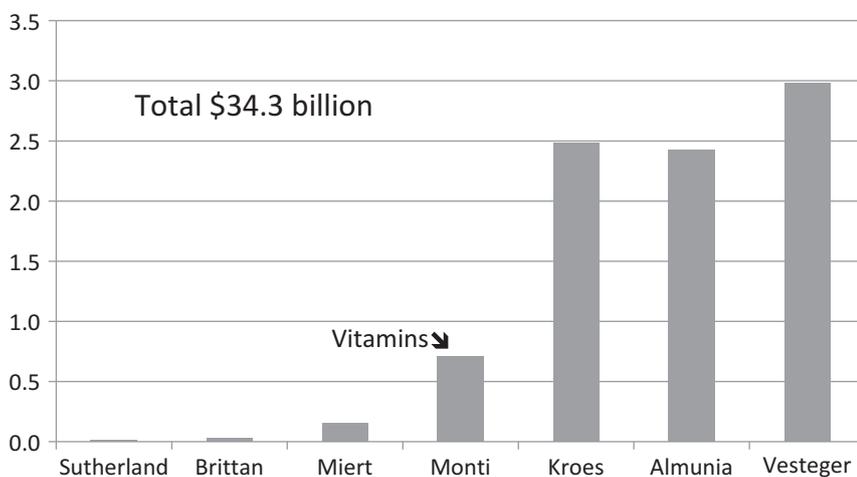


Figure 9: European Commission Fines Imposed, per Year, by Competition Commissioner



The greater prosecutorial assertiveness during periods of Liberal Party rules could represent conscious outcomes of differences in declared political philosophies, such as a stronger *laissez-faire* orientation of Conservatives, but I am in no position to opine on such differences. More likely, party rule may account for shifts the Bureau's case-selection priorities in ways that affect outcomes in the numbers

cartels investigated and size of fines.<sup>86</sup> For example, when one compares the type of cartels investigated in 1997–2008 (the von Finkenstein–Scott commissioner-ships) with 2009–2015 (Aitken–Pecman), the Liberal commissioners chose to probe few bid-rigging cartels (20% of the total), whereas the Conservatives strongly preferred attacking bid-rigging schemes (a striking 78%), many of these schemes targeting government units.<sup>87</sup> Bidding rings typically absorb rather large investigative resources and involve relatively small overcharges and affected sales. Had this article included figures on entirely domestic collusion, the bid-rigging shifts due to party control would probably be even larger.

### 3.2 BUREAU PERFORMANCE IN AN INTERNATIONAL CONTEXT

In the 1990s, about 60% of the Bureau's cartel cases followed actions initiated by the US DOJ.<sup>88</sup> The Bureau first investigated a global cartel, *Fax Paper* in 1994–1997, followed by *Lysine* and *Citric Acid* in 1998–1999. Joint raids of global cartels began at around that time with the DOJ, the EC, the Japan FTC, and other antitrust authorities. Not all cartels that spread across their border were jointly prosecuted by the Bureau and the DOJ.<sup>89</sup>

The Bureau has limited resources. It cannot launch formal investigations on every allegation that comes to its attention, nor is it managerially rational to do so.<sup>90</sup> The Bureau must consider its present resource commitments, the credibility of the source of the allegations, the likely size of injuries, the probability of obtaining a conviction, and the deterrence value of penalties. It has to pass on small cartels with dubious allegations and difficult proof.

Table 3 assembles information on 115 international cartels that are likely to have affected Canadian residents but were not known to have been investigated by the Bureau. The tabulated data are broken into two groups, the 'Probable' and the 'Possible'. The Probable cartels are those that (1) involved tradable goods, (2) were convicted<sup>91</sup> in the United States, and (3) for which there was information on

<sup>86</sup> One type of cartel does not vary significantly by party affiliation. Global cartels (those operating in at least two continents) were prosecuted by Liberal commissioners at a rate of 76% of all international cartels, while the Conservatives investigated global conspiracies 84% of the time. However, the latter result heavily depends on the many *Auto Parts* cartels.

<sup>87</sup> The same pattern is observed during the most conservative US presidential administration, Ronald Reagan. His antitrust leader, William Baxter, refocused the DOJ's efforts toward scores of small scale bid-rigging schemes aimed at federal and state governments.

<sup>88</sup> See Connor 2008a op. cit. p. 102.

<sup>89</sup> *Ibid.*, at 103.

<sup>90</sup> See Preston & Connor (1992) for a model that supports this statement.

<sup>91</sup> Convicted cartels are those with at least one participant with a criminal guilty plea or contained settling defendants in court-supervised private US or Canadian damages suits.

Canadian affected commerce. In short, they are likely candidates for collusive conduct that spilled over the border into Canada. The Possible cartels had US affected sales (but unknown Canadian sales) or are global with ambiguous evidence of North American operations.

Let us look at three examples:

- (1) The *Vitamin D3* cartel was convicted by the EC (and fined USD 38 million) and investigated by at least three other authorities that closed their investigations with no penalties. No private cases were filed anywhere in the world. With only USD 5 million in Canadian sales, the Bureau understandably passed.
- (2) At the other end of the spectrum is the *Liquid Crystal Display* (LCD) panels cartel. Fines totalling USD 2.3 billion were imposed by the United States, EC, Japan, Korea, Brazil, Taiwan, and Mexico. Moreover, private settlements of at least USD 2.0 billion in Canada and two other jurisdictions add to fines. With Canadian affected sales above USD 9 billion, no Bureau investigation is perhaps less defensible.
- (3) The Bureau has investigated the many *Auto Parts* cartels for longer than any of the world's twelve other antitrust authorities investigating (see Connor 2013). More than sixty interconnected cartels are involved (some authorities suggest double that number) that targeted OEM assembly firms doing billions of dollars in business in Canada. The US DOJ has convicted about forty companies and indicted fifty-eight executives, but the Bureau has fined only ten corporate defendants and *no executives*. This laggard performance is inexplicable.<sup>92</sup>

The inability or unwillingness of the Bureau to prosecute numerous harmful international cartels is a long-standing feature (Table 3). To quantify this phenomenon, I developed a Prosecution Ratio, the ratio of Bureau-investigated cartels to the total number of apparently likely targets. While I would not expect the Ratio to reach 100%, I was surprised to see that it has hovered at around 40% across most Bureau Commissionerships. It was highest during von Finkenstein's leadership (46%), lowest during Wetston's (33%), and close to 40% in the five other Bureau administrations.

---

<sup>92</sup> Other cartels that seem to fall into this category are *FOREX* and several other bank-related cases, *Flat Glass*, *DRAMs*, *Underseas Cable*, and numerous generic drug pay-for-delay cases.

Table 3: *Unindicted Cartels Likely Affecting Canada, Discovered 1990–2015*

Probable Cartels <sup>a</sup>			Possible Cartels <sup>b</sup>		Prosecution Ratio
Year First Cartelist Prosecuted	Num-ber	Canada Affected Sales <i>USD mil.</i>	Num-ber	Canada Affected Sales <i>USD mil.</i>	Number Penalized/ Total <sup>c</sup> <i>Percent</i>
Before 1995	2	751	8	1967	60.0
1995–1999	9	8912	11	4249	51.2
2000–2004	11	38,595	10	43,386	27.6
2005–2009	19	30,789	20	151,912	35.0
2010–2015	9	30,540,264	15	22,492,697	33.3
<b>By Commissioner:</b>					
Wetston	0	0	4	1776	33.3
Addy	4	3086	9	3415	35.0
von Finckenstein	16	7022	14	145,537	45.5
Scott	19	35,800	17	143,442	37.7
Aitken	6	25,887,860	10	9447	40.7
Pecman	5	4,563,933	10	22,591,914	44.4
Total	50	30,587,701	65	22,694,232	40.1

<sup>a</sup>Cartelized NAFTA-tradable goods and services with some indications of significant Canadian sales estimates.

<sup>b</sup>Cartelized NAFTA-tradable goods and services with US Government prosecutions. Canadian affected sales roughly 7% of estimated US affected sales. Data for 2010–2015 are preliminary estimates.

<sup>c</sup>Total is number actually penalized and likely cartels in this Table.

Source: John M. Connor, *Private International Cartels* spreadsheet (April 2016)

A more precise way of measuring the Bureau's reticence is to look at its record in penalizing corporate participants in global cartels. By focusing on global, multi-jurisdictional prosecutions, the degree of the Bureau's assertiveness can be compared to that of sister authorities. There is ample evidence that global cartels are the most injurious type of international cartels (see Figure 10).<sup>93</sup>

<sup>93</sup> This figure shows median averages; because overcharge rates are asymmetric, mean averages are much higher – 38% for North America and 65% for global cartels.

Figure 10: Median Percentage Overcharges by Geographic Location of Collusion

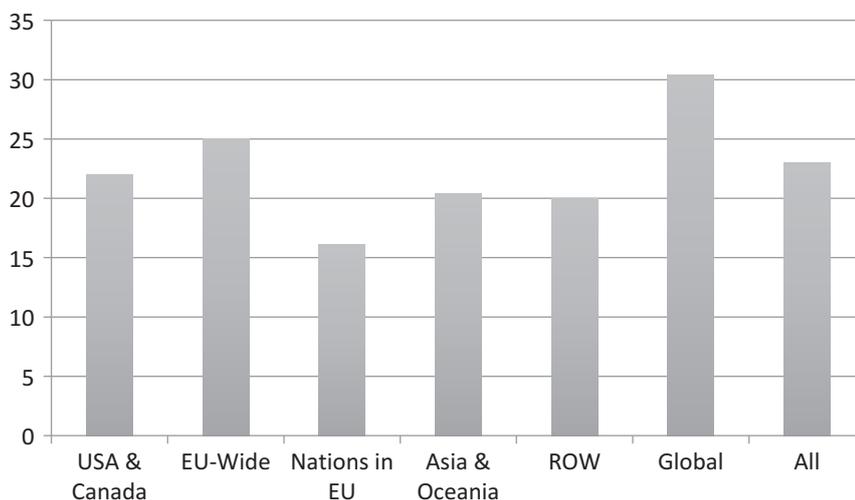


Table 4 assembles those records for 16 cartels discovered after the Act was strengthened in 1999. Both the US DOJ and the EC convicted slightly more than four corporate cartelists per cartel on average; for private damages cases in the United States the mean number of defendants that settled was 6.6 per cartel. Because the two economies are so closely integrated, it is reasonable to surmise that cartelists guilty of conspiring in the United States would also affect Canadian commerce, if only through exports to Canada. Applying this inference, the average number of companies penalized by the Bureau (1.8) can be compared to the average number penalized in the United States for the same sixteen global conspiracies (4.25). The Bureau penalizes *less than half* the number of companies found liable for the *same crime* across the border; the Bureau fined fewer numbers in 15 of the 16 cases collected. The most egregious under-enforcement occurred in *Air Cargo*, where at least a dozen apparently guilty firms escaped criminal penalties. Thus, the Bureau convicts both fewer cartels *and* fewer cartelists per cartel operating in Canada.

### 3.3 CRIMINAL CONVICTIONS RELATIVE TO PRIVATE PARTIES

Another way of investigating the tendency to overlook penalizing all the members of international cartels is to compare the Bureau's lists of *criminally* penalized with

Table 4: Numbers of Corporate Cartelists Unindicted by the Bureau, Discovered 2000–2015 <sup>a</sup>

Global Cartel	Year Detected	Number of Companies Penalized in Other Jurisdictions				Difference
		US DOJ	EU	N. Am. Private	Canada	
<i>MSG and Nucleotides</i>	2001	3	4	6	3	3
<i>Carbon &amp; Graphite Electrical Products</i>	2001	2	5	5	1	5
<i>Carbon Cathode Block</i>	2002	3	0	0	2	1
<i>Rubber Processing Chemicals</i>	2002	2	3	3	2	1
<i>Methylglucamine</i>	2002	2	2	0	1	1
<i>Shipping, Parcel Tankers</i>	2003	2	0	5	1	4
<i>Nitrile Synthetic Rubber</i>	2003	2	2	5	1	3
<i>Hydrogen Peroxide, bleaches</i>	2003	2	7	0 <sup>b</sup>	2	0
<i>Polychloroprene Synthetic Rubber</i>	2003	2	4	3	1	2
<i>Air cargo, fuel surcharge</i>	2006	19	16	25	7	12 to 18
<i>Compressors, refrigeration</i>	2009	3	4	4	1	3
<i>Auto parts, wire harnesses</i>	2009	6	3	17 <sup>c</sup>	2	4 +
<i>Auto parts, anti-vibration devices</i>	2010	3	–	6	2	4
<i>Foam, polyurethane</i>	2010	9 <sup>c</sup>	3	14 <sup>c</sup>	1	8
<i>Auto parts, Instrument panel clusters</i>	2020	3	–	5	1	4
<i>Auto parts, occupant safety</i>	2011	5 <sup>c</sup>	–	7 <sup>c</sup>	1	4
Total of 16 Cartels	–	68	53+	105+	29	59 to 66
Average global cartel		4.25	4.1	6.56	1.8	3.7 to 4.1

<sup>a</sup>All global cartels after 1999 that the Bureau and the DOJ fined at least one company each.

<sup>b</sup>Overtumed at the Appeals court because higher burden of proof.

<sup>c</sup>Settlements incomplete. Number of defendants under investigation or sued.

Source: John M. Connor, *Private International Cartels* spreadsheet (April 2016)

the lists of *civilly* penalized cartelists in Canadian provincial damages actions. Private suits in Canada are nearly all Bureau follow-on suits.<sup>94</sup> Private plaintiffs have an uphill battle in becoming certified and in proving damages created by companies *not* criminally convicted because plaintiffs lose the legal advantage of *prima facie* evidence conveyed by a criminal plea or conviction.<sup>95</sup> So, one might expect the number of defendants punished in private to be the same or lower than the number criminally penalized.

The 43 cartel cases examined in Table 5 generally show the opposite. Except for prosecutions initiated during the von Finkenstein commissionership, private plaintiffs in global cartel suits held liable a greater number of corporate cartelists than did the Bureau. Private litigants extracted monetary settlements from *double* the number of cartelists than the number fined by the Bureau.<sup>96</sup> Looking at the nine international cartels that operated solely within North America, the number of cartelists that settled was *nearly triple* the number fined. Why the Bureau has reverted to a pattern of convicting smaller and smaller proportions of guilty cartelists since 1999 is quite puzzling, especially as it has been getting superior inculpatory information from immunity and leniency applicants since 1999.

### 3.4 SEVERITY AND RECOVERY OF BUREAU FINES

One rather stark difference between the previous studies of the Bureau and the present study concerns the availability of information on the *severity* of Bureau cartel fines. In the 1990s, before the revised and more effective Immunity and Leniency Programs were instituted, the policy was to hew closely to an average severity of 20% of Canadian affected commerce; beginning in late 2000, grants of immunity and leniency reduced the severity of cartel fines for the first two or three cartelists to apply and to increase severity on the later applicants to 30% or 40% of sales.

The severity of penalties is conventionally measured as the ratio of a cartel fines to the jurisdiction's affected sales of that cartel. Data on 53 international

<sup>94</sup> There are a small number of non-follow-on damages actions in Canada in recent years. In the United States, nearly half of all cartel private damages suits do not follow DOJ convictions. See J. Connor & R. Lande, *Not Treble Damages: Cartel Recoveries Are Mostly Less Than Single Damages*, 100(5) Iowa L. Rev. 1997–2023 (July 2015), preprint available at: <http://ssrn.com/abstract=2548712>.

<sup>95</sup> See P. Franklyn & C. Naudie, *The Certification of Antitrust Class Actions in Canada*, 4 Antitrust Practitioner 13–19 (July 2006). Private rights of action for single damages were authorized by Parliament in 1976 and were gradually adopted by Provincial courts from 1992. Class certification barriers are onerous but not as formidable for plaintiffs as in the US courts. Non-follow-on suits are rarely successful for plaintiffs. And contested actions have failed to be certified until 2009 in *Irving Paper v. Atofina (Hydrogen Peroxide)*.

<sup>96</sup> A handful of defendants in private damages actions were immunized from criminal convictions, but not enough to overturn that statement.

Table 5: Numbers of Corporate Cartelists Penalized by Criminally and Civilly in Canada, 1995–2011 <sup>a</sup>

Cartel	Year <sup>b</sup> Guilty	Number of Companies Penalized		
		Bureau	Private	Difference
<b>34 Global Cartels:</b>				
<i>Citric Acid</i>	1995	5	4	-1
<i>Lysine</i>	1995	3	4	1
<i>Copper metal, manipulation of LME price index</i>	1995	1	5	4
<i>Auction houses, art, buyers' &amp; sellers' fees</i>	1997	1	2	1
<i>Sorbates</i>	1998	5	6	1
<i>Vitamins: Beta Carotene</i>	1999	2	2	0
<i>Vitamins: Astaxanthin &amp; Canthaxanthin</i>	1999	0	1	1
<i>Vitamin H (Biotin)</i>	1999	2	3	1
<i>Vitamin B9: Folic Acid</i>	1999	0	0	0
<i>Vitamin A</i>	1999	3	3	0
<i>Vitamin B1</i>	1999	0	0	0
<i>Vitamin B2</i>	1999	2	3	1
<i>Vitamin B3 (niacin)</i>	1999	4	4	0
<i>Vitamin B5</i>	1999	3	3	0
<i>Vitamin B6</i>	1999	0	0	0
<i>Vitamin B 12</i>	1999	2	2	0
<i>Vitamin C</i>	1999	4	4	0
<i>Vitamin E</i>	1999	4	4	0
<i>Vitamin Premixes</i>	1999	2	2	0
<i>Methionine</i>	1999	0	4	4
<i>Choline Chloride (vitamin B4)</i>	1999	1	3	2
<i>MCAA (monochloroacetic acid)</i>	2001	0	5	5
<i>MSG and Nucleotides</i>	2002	2	5	3

Cartel	Year <sup>b</sup> Guilty	Number of Companies Penalized		
		Bureau	Private	Difference
<i>EPDM synthetic rubber</i>	2002	0	5	5
<i>Rubber Processing Chemicals</i>	2002	2	3	1
<i>DRAMs</i>	2002	0	11	11
<i>Polychloroprene Synthetic Rubber (PCP)</i>	2003	1	3	2
<i>Hydrogen Peroxide, other bleaches</i>	2003	2	5	3
<i>Urethane, Polyurethane Plastics</i>	2004	0	4	4
<i>SRAMs</i>	2006	0	6 <sup>c</sup>	6
<i>Air cargo, fuel surcharge</i>	2006	6	12 <sup>c</sup>	6
<i>LCDs</i>	2006	0	5 <sup>c</sup>	5
<i>Chocolate candy bars</i>	2007	1	4	3
<i>Auto parts, aftermarket lighting</i>	2011	1	1 <sup>c</sup>	0
Global Subtotal	–	59	128	69
<b>9 North American Cartels:</b>				
<i>Linerboard</i>	1997	0	6	6
<i>Sodium Erythorbate</i>	1999	1	2	1
<i>Maltol, Synthetic</i>	1999	0	2	2
<i>Polyester staple</i>	2002	0	3	3
<i>Bank credit-card interchange fees</i>	2003	0	8 <sup>c</sup>	8
<i>Bank, currency conversion fees, charge cards</i>	2003	0	6	6
<i>Polyols, polyester aliphatic</i>	2004	1	3	2
<i>Ice, packaged</i>	2008	0	1	1
<i>eBooks</i>	2011	0	4	4
North American Subtotal	–	2	34	32
Total of 43 Cartels	–	61	162	99
Average cartel	–	1.4	3.8	2.3

<sup>a</sup>All global cartels after 1995 for which the class actions are substantially complete.

<sup>b</sup>Year first cartelist fined by the Bureau; if none, then the first private settlement date.

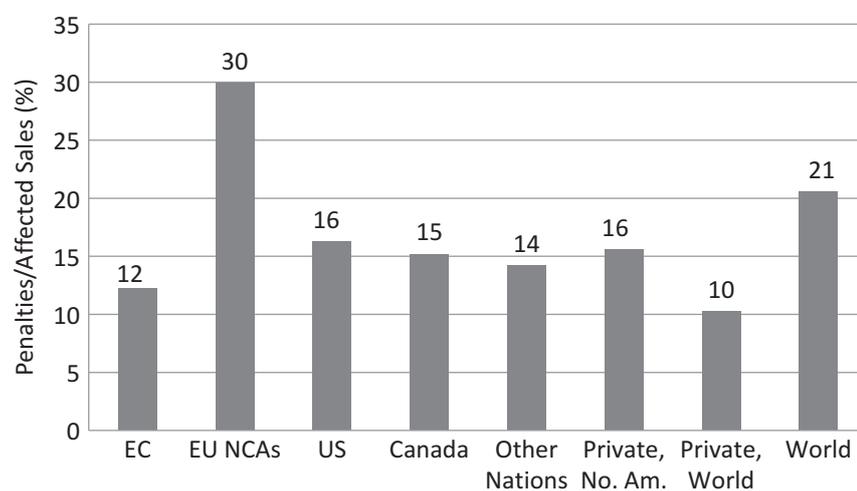
<sup>c</sup>Settlements may be incomplete.

Source: John M. Connor, *Private International Cartels* spreadsheet (April 2016)

cartels shows that the mean average severity of Bureau fines during 1990–2015 is 15.2%, which is a bit lower than the 20% of affected commerce that it describes as its typical goal.<sup>97</sup> However, as a small share of these severity ratios are quite high, the median average (8.4%) may be a better representation of what is typical. These averages seem to be in decline as the sales sizes of the most recently discovered cartels has grown to massive levels.

The severity of Canadian fines is below the world mean average of 21%, is about the same as the US DOJ's, but is above that of the European Commission (Figure 11).

Figure 11: Mean Severity of Penalties on 662 International Cartels, 1990-2015



A more appropriate statistic for assessing the rigor of enforcement is the extent to which fines result in recovering cartel-generated damages. Recall that overcharges from contemporary international price fixing in North America average about 22% of affected sales (Figure 11). Data on cartel overcharges are difficult to obtain because of the absence of detailed price data, data secrecy, and lags in publishing economic analyses. I have been able to locate thirty-four Canadian overcharge rates for contemporary international cartels.<sup>98</sup> The mean recovery ratio<sup>99</sup> of those damages via Bureau fines is 55.8%; the median recovery ratio is

<sup>97</sup> Recall that according to Rowley et al. (2002) the mean average severity in 1991–2001 was 21.3%. If so, the mean severity of fines must have been much lower in 2001–2005.

<sup>98</sup> These estimates are for sales strictly within Canada's national territory. About one-third of the thirty-four observations are *Bulk Vitamins* cartels.

<sup>99</sup> The concept of the recovery ratio was apparently coined in Connor and Lande (2015).

37.8%.<sup>100</sup> That is, less than half of the estimated cartel overcharges in Canada are returned to its citizens through Bureau penalties.<sup>101</sup> These ratios are lower than the ones seen in the United States but higher than the European Commission's.

In theory, private rights of action can legally recoup an additional 100% of damages since about 1992. However, while no empirical studies have been yet published, bargaining and compromises are likely to result in recoveries closer to 50% than 100%. Moreover, because the probability of detection of clandestine cartels is 30% or less, even recoveries averaging 150% of damages are well below the percentages necessary to specifically deter price-fixing collusion.

#### 4 SUMMARY AND CONCLUSIONS

Canada's legal structure has changed in ways that supports more severe penalties for price fixers: the Competition Act was strongly amended in 1998 and 2009 to make proof of collusion a lower burden for the Competition Bureau; Parliament has increased maximum corporate and individual penalties to much higher levels than were permissible in the 1990s; and the courts have eased the rules for plaintiffs that expedite private damages suits. The Bureau probably increased the detection of cartels through implementation of its immunity and leniency programs around 2001.

This article assembles much of the available data on Canadian criminal enforcement applied to international cartels detected in the past 26 years. I find that the Bureau overlooks about half of the international cartels believed to have operated in Canada, it is relatively slow in processing convictions of cartelists, and it convicts fewer cartelists per cartel than expected.

The party of the Prime Minister influences case selections and penalties imposed on cartels and their participants. Conservatives greatly favour picking bidding rings rather than classic price-fixing cartels that tend to have larger affected commerce and cause greater economic injuries. Liberal-appointed Commissioners tend to convict larger numbers of cartels and more corporate defendants; they recommend higher fines; and they convict more cartel managers. Unlike the United States and the EU, where annual cartel fines have marched upward under each successive administration, Canada's temporal pattern is unsteady.

The mean average severity of Canada's cartel fines is about the same as that in the United States and higher than the EU's. Canadian fines and private damages

---

<sup>100</sup> Damages here include overcharges alone; including the dead-weight losses from collusion would further depress recovery ratios. Recover ratios may be declining over time, but the sample size is too small to be definitive about the trend.

<sup>101</sup> A conventional optimal deterrence perspective suggests that fines are about one-fifth of the optimum (see Connor & Lande 2012).

together are likely to be roughly 100% in the last decade or so. Full disgorgement of cartel damages is inadequate to achieve optimal deterrence of cartels because fewer than 30% are caught. Compared to the United States, Canadian courts impose light sentences on the few individuals convicted of criminal price-fixing.

Over the past 26 years, Canada's Competition Bureau has left a trail of mixed indicators of the quality of its enforcement of international cartels. The number and types of cartel prosecutions and the size of corporate fines are strongly affected by the party of the Prime Minister – more so than other top-rated authorities. Perhaps if the Bureau reported to the Ministry of Justice, the pattern of prosecutions might become steadier and the decisions faster. Clearly the individuals appointed Commissioner can make large differences in the aggressiveness of enforcement. It would seem to be an opportune time for the Bureau to request a Peer Review of its enforcement by the Organisation for Economic Co-operation and Development (OECD).<sup>102</sup>

#### REFERENCES [LISTED FOR EDITOR ONLY]

Aitken, Melanie I, *Speech to the Canadian Bar Association Competition Law Section Annual Conference* (25 Sept. 2009).

Aitken, Melanie I, *Remarks by Melanie L. Aitken, Commissioner of Competition*, 2011 Competition Law and Policy Forum, Northwinds Professional Institute, Cambridge, Ontario ( 24 Feb. 2011), <http://www.competitionbureau.gc.ca/eic/site/cb-bc.nsf/eng/03377.html>.

Aitken, Melanie I. *Remarks by Melanie L. Aitken, Commissioner of Competition*, Northwinds Professional Institute. Keynote Speech at the Canadian Bar Association 2011, Fall Conference, Hilton Lac-Leamy, Quebec (6 Oct. 2011a), <http://www.competitionbureau.gc.ca/eic/site/cb-bc.nsf/eng/03424.html>.

Aitken, Melanie I. Northwinds Professional Institute. *Remarks by Melanie L. Aitken, Commissioner of Competition*, Competition Bureau. Canadian Bar Association meeting, Ottawa. (20 Sept. 2012), <http://www.competitionbureau.gc.ca/eic/site/cb-bc.nsf/eng/03508.html>.

Banicevic, Anita & Mark Katz, *Recent Developments in Canadian Cartel Enforcement*, Kluwer Competition Law Blog (21 Mar. 2016).

Bureau. *Leniency Program Bulletin* ( 29 Sept. 2010) [http://www.competition-bureau.gc.ca/eic/site/cb-bc.nsf/eng/03288.html#s3\\_3](http://www.competition-bureau.gc.ca/eic/site/cb-bc.nsf/eng/03288.html#s3_3).

<sup>102</sup> I refer to a full review like OECD, *Competition Law and Policy in Brazil: A Peer Review*. Paris, Organization of Economic Co-Operation and Development (2010), which includes an assessment of cartel-enforcement outcomes.

Bureau. *Competition Bureau Introduces Quarterly Report, Launches New Portal on International Activities* ( 29 Aug. 2015), <http://www.competitionbureau.gc.ca/eic/site/cb-bc.nsf/eng/03806.html>.

Bureau. *Competition Bureau Quarterly Statistics Report for the Period Ending December 31, 2015* (2016) <http://www.competitionbureau.gc.ca/eic/site/cb-bc.nsf/eng/03973.html>.

Campbell, A. Neil & Casey W. Halladay, *A New Era for Canadian Cartel Enforcement*. LEXPERT (2011).

Chandler, Harry & Robert Jackson, *Beyond Merriment and Diversion: The Treatment of Conspiracies under Canada's Competition Act*. Paper Presented at the Roundtable on Competition Act Amendments, Insight Conferences, Toronto, Ontario (25 May 2000).

Connor, John M, *Global Price Fixing: Paperback* (2nd ed., Berlin and Heidelberg, Germany: Springer Verlag Apr. 2008).

Connor, John M, *Anti-Cartel Enforcement by the DOJ: An Appraisal*, 5 (1) Competition L. Rev. 89–121 (Dec. 2008a), <file:///Users/JohnC/Downloads/Vol5Iss1Art3Connor.pdf>.

Connor, John M, *Global Antitrust Prosecutions of International Cartels: Focus on Asia*, 31 World Competition 575–605 (Dec. 2008b).

Connor, John M, *Is Auto Parts Evolving into a Supercartel?* AAI Working Paper No. 13-04 (28 Aug. 2013), <http://www.antitrustinstitute.org/~antitrust/sites/default/files/WorkingPaper13-04.pdf>

Connor, John M, *The Private International Cartels (PIC) Data Set: Guide and Summary Statistics, 1990–July 2016* (Revised 2nd ed.) SSRN Working Paper (8 Aug. 2016), <http://ssrn.com/abstract=2821254>.

Connor, John M. & Robert H. Lande, *Not Treble Damages: Cartel Recoveries Are Mostly Less Than Single Damages*, 100 (5) Iowa L. Rev. 1997–2023 (July 2015), <http://ssrn.com/abstract=2548712>.

Franklyn, Peter & Christopher Naudie, *The Certification of Antitrust Class Actions in Canada*. 4 *Antitrust Practitioner* 13–19 (July 2006).

FTC: Watch, *Increased Cross-Border Enforcement Coordination* FTC: Watch No. 425 (19 Dec. 1994), <http://ftcwatch.com/ftcwatch-no-425/>.

Goldman, Calvin S. & Navin Joneja, *Institutional Design of Canadian Competition Law: The Evolving Role of the Commissioner*, 41 Loyola U. Chi. L.J. 535–572 (Spring 2010).

Gourley, Al, *A Report on Canada's Conspiracy Law: 1889–2001 and Beyond*. (Toronto: Macleod Dixon Aug. 2001). [http://competitionbureau.gc.ca/eic/site/cb-bc.nsf/vwapj/gourleyrep.pdf/\\$FILE/gourleyrep.pdf](http://competitionbureau.gc.ca/eic/site/cb-bc.nsf/vwapj/gourleyrep.pdf/$FILE/gourleyrep.pdf)

Halladay, Casey W, *The Origins of Canada's Cartel Laws*, 25 Can. Competition L. Rev. 157–163 (2012).

Letwin, William L, *Congress and the Sherman Antitrust Law: 1887–1890*, 23 U. Chicago Law Review (Winter, 1956): 221–258.

Knox, Ron, *The Chocolate Test*. Global Competition Rev. (25 July 2013). <http://globalcompetitionreview.com/features/article/33887/chocolate-test>

Lexpert, *Jury Issues 'Not Guilty' Verdicts in R. v. Durward*. Lexpert (Sept. 2015).

LoPatriello, Grant, *Cuffs and Compliance: A Five-Year Retrospective of Criminal Anti-Cartel Competition Law Enforcement in Canada*, (1) CPI Antitrust Chronicle 1–6 (Aug. 2014).

Low, D. Martin & Casey W. Halladay, *Redesigning a Criminal Cartel Regime: The Canadian Conversion*, in *Criminalising Cartels: Critical Studies of an International Regulatory Movement* Ch. 4 (Beaton-Wells, Caron, and Ariel Ezrachi eds, Oxford: Hart Publishing 2011).

Low, D. Martin & Casey W. Halladay, *Key Issues for Canadian Cartel Enforcement in 2012*, American Bar Association International Cartel Workshop (2012).

Low, D. Martin, Casey W. Halladay, & Mark Opashinov, *Canada: Cartel Regulation 2012*, *Mondaq* (1 May 2012). [file:///Users/JohnC/Documents/CANADA Cartel Regulation 2012 - Anti-trust\\_Competition Law - Canada.htm](file:///Users/JohnC/Documents/CANADA%20Cartel%20Regulation%202012%20-%20Anti-trust_Competition%20Law%20-%20Canada.htm).

OECD, *Canada – Updated Report on Competition Law and Institutions*. Paris, Organization of Economic Co-Operation and Development (2004).

OECD, *Competition Law and Policy in Brazil: A Peer Review*. Paris, Organization of Economic Co-Operation and Development (2010).

Preston, Warren P. & John M. Connor, *An Economic Evaluation of Federal Antitrust Activity in the Manufacturing Industries: 1980–1985*, 34 Antitrust Bulletin 969–996 (Winter 1992).

Ross, Thomas W, *Viewpoint: Canadian Competition Policy: Progress and Prospects*, 37 Can. J. Econ. 243–268 (2004).

Rowley, J. William et al., *Recent Trends in the Prosecution of Cartels in Canada*. American Bar Association International Cartel Workshop (Feb. 2002).

Schinkel, Maarten Pieter, *Effective Cartel Enforcement in Europe*, 30 World Competition: L. & Econ. Rev. 539–572 (Jan. 2007).

Sokol, Daniel D. & Vivek Ghosal, *Policy Innovations, Political Preferences, and Cartel Prosecutions*, 48 Rev. Indus. Org. 405–432 (2016).

Stanbury, W. T, *Legislation to Control Agreements in Restraint of Trade in Canada: Review of the Historical Record and Proposals for Reform*, in *Canadian Competition Law and Policy at the Centenary* 61–148 (Montreal: The Institute for Research on Public Policy 1991).

Stanbury, W. T, *Expanding Responsibilities and Declining Resources: The Strategic Responses of the Competition Bureau 1986–1996*, 13 *Rev. Indus. Org.* 205–241 (1998).

Veljanovski, Cento, *Cartel Fines in Europe*, 29 *World Competition: L. & Econ. Rev.* (2007).

Wetston, Howard I, *Canadian Competition Law: Current Issues in Conspiracy Law and Enforcement: Meredith Memorial Lectures 33* (McGill University Montreal: Éditions Y. Blais 1991) (delivered Nov. 1990).

Witterrick, Crystal L, *Regulation of Competition in the Canada/U.S. Context—Extraterritorial Reach of U.S. Antitrust Law—A Canadian Perspective*, 24 *Can.-U.S. L. J.* 299–314 (Jan. 1998).