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## Global Antitrust Enforcement: An Empirical Assessment of the Influence of Protectionism

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## GLOBAL ANTITRUST ENFORCEMENT: AN EMPIRICAL ASSESSMENT OF THE INFLUENCE OF PROTECTIONISM

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*Abstract:* With the expanding scope of antitrust enforcement and the globalization of commercial activity, antitrust enforcement policies and enforcement are at an important juncture. They may (i) exhibit a unified and neutral approach to policy in which case factors such as the national identities of firms and their competitors play no role in enforcement actions, (ii) be subject to protectionist influences, or (iii) be focused on domestic firms for various reasons. In this study we assess empirically the influence of protectionism in enforcement actions by the European Union and the United States between 1994 and 2009. Our inquiries concerning the likelihood that parties will be subject to enforcement actions and the severity of monetary penalties imposed by central authorities yield a mixture of results, but little support for the hypothesis that antitrust enforcement has been captured by protectionist interests.

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**Working Paper No. 233**

**“Global Antitrust Enforcement: An Empirical  
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## I. Introduction

In recent years, several branches of law have experienced a trend towards the globalization and convergence of their rules across multiple jurisdictions. For example, intellectual property (IP) law is currently influenced by two multi-jurisdiction platforms, the “World Intellectual Property Organization” (WIPO) and the “Trade Related Aspects of Intellectual Property Rights” (TRIPS) agreement, which provide frameworks for the dissemination and enforcement of IP rules among its member jurisdictions.<sup>1</sup> Similarly, environmental impact assessment requirements have been widely adopted across multiple jurisdictions and are part of several international environmental treaties.<sup>2</sup> Climate change treaties, such as the U.N. Framework Convention on Climate Change and the 1997 Kyoto Protocol, also facilitate coordination of environmental efforts and legislation across their member states.<sup>3</sup> Yet another multilateral environmental entity is the International Maritime Organization (IMO), which promotes coordination of marine pollution standards and other marine-related environmental protection efforts across the globe.<sup>4</sup> Antitrust law is another legal area which is increasingly supranational, with bilateral agreements between nations designed to encourage cooperation among individual antitrust authorities.<sup>5</sup>

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<sup>1</sup> The WIPO, established in 1967 by the United Nations, is dedicated to developing an international IP system for its more than 180 current member states. It administers 24 international treaties on IP and is responsible for “promoting the balanced evolution of IP legislation, standards and procedures among its Member States,” including the development of international law on patents, trademarks, and copyright. (WIPO, “What is WIPO?” available at [http://www.wipo.int/about-wipo/en/what\\_is\\_wipo.html](http://www.wipo.int/about-wipo/en/what_is_wipo.html); WIPO, “Core Tasks of WIPO?” available at [http://www.wipo.int/about-wipo/en/core\\_tasks.html](http://www.wipo.int/about-wipo/en/core_tasks.html).) The TRIPS, established in 1994 under the WTO, introduced IP rules into the dispute resolution system of the WTO, and established minimum levels of IP protection and enforcement among WTO member states. (WTO, “Overview: the TRIPS Agreement,” available at [http://www.wto.org/english/tratop\\_e/trips\\_e/intel2\\_e.htm](http://www.wto.org/english/tratop_e/trips_e/intel2_e.htm); WTO, “Intellectual Property: Protection and Enforcement,” available at [http://www.wto.org/english/thewto\\_e/whatis\\_e/tif\\_e/agrm7\\_e.htm](http://www.wto.org/english/thewto_e/whatis_e/tif_e/agrm7_e.htm).)

<sup>2</sup> Environmental impact assessment requires jurisdictions to assess the environmental impact of potential large-scale projects (e.g., water dam construction). It originated in the United States as part of the National Environmental Policy Act of 1969, and today has been adopted by numerous countries such as China, India, and Mexico. It has also been added as provisions to numerous international environmental treaties such as the U.N. Framework Convention on Climate Change and the North American Agreement on Environmental Cooperation. (Yang, T. and Percival, R., “The Emergence of Global Environmental Law,” *Ecology Law Quarterly*, 2009, Vol. 36:615, pp. 627-630.)

<sup>3</sup> Yang, T. and Percival, R., “The Emergence of Global Environmental Law,” *Ecology Law Quarterly*, 2009, Vol. 36:615, pp. 635-638.

<sup>4</sup> Yang, T. and Percival, R., “The Emergence of Global Environmental Law,” *Ecology Law Quarterly*, 2009, Vol. 36:615, pp. 638-639.

<sup>5</sup> For example, the European Union has antitrust cooperation agreements with the United States, Canada, Japan and Korea. Likewise, the United States has antitrust arrangements with the European Union, Germany, Israel, Canada, Australia, Japan, Brazil, and Mexico. (Guzman, A., “Antitrust and International Regulatory Federalism,” *New York University Law Review*,” 76(1142), October 2001, pp. 1142-1163 at pp.1144-1146; European Community Competition Policy, “Bilateral Relations on Competition Issues,” available at <http://ec.europa.eu/competition/international/bilateral/>); Federal Trade

Additionally, several multilateral antitrust platforms exist wherein different jurisdictions can communicate, coordinate and assist each other in the development and enforcement of antitrust policy.<sup>6</sup>

The separate cross-jurisdiction convergence of these three branches of law (IP, environmental and antitrust) all mark the increasing “interdependence of nation states flowing from the [global] movement toward economic and social integration,” and a trend toward what many legal scholars have called the “global administrative space.”<sup>7</sup>

With the growth in global antitrust enforcement, individual antitrust authorities must increasingly decide whether to proceed with enforcement actions against foreign entities and what penalties to impose when foreign firms are found liable. In this study, we investigate whether global antitrust enforcement actions are (i) *neutral*, (ii) *protectionist*, or (iii) *domestic* in orientation by studying enforcement actions between 1994 and 2009 by the European Union (EU) under Article 81 (anti-competitive agreements)<sup>8</sup> and by the Antitrust Division of the United States Department of Justice (US DoJ) under Section 1 of the Sherman Act (also anti-competitive agreements). In particular, we assess whether, conditional on being present in the relevant jurisdiction, foreign firms (from the perspective of an antitrust authority) (a) have a higher probability of being fined than domestic firms, and (b) receive higher fines than their domestic counterparts. Our results provide some support for the view that global antitrust enforcement policies are

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Commission, “International Antitrust and Consumer Protection Cooperation Agreements,” available at <<http://www.ftc.gov/oia/agreements.shtm>>.)

<sup>6</sup> For example, the International Competition Network (ICN) was created on October 2001 by fourteen governments, including Canada, the EU, Japan, Korea, UK, and the US. Its goals are to provide antitrust policy guidelines and best practices to interested authorities and to foster convergence towards sound competition policy across the global antitrust community. Likewise, the “Competition Law and Policy” program at the United Nations provides developing countries support for antitrust policy capacity-building, and the OECD’s “Competition Committee” advises governments on competition policy issues in the interest of global economic efficiency. (International Competition Network, “History of the ICN,” available at <<http://www.internationalcompetitionnetwork.org/index.php/en/about-icn/history>>; <<http://www.internationalcompetitionnetwork.org/index.php/en/about-icn>>; United Nations Conference for Trade and Development, “Competition Law and Policy,” available at <<http://www.unctad.org/Templates/StartPage.asp?intItemID=2239&lang=1>>; OECD, “Competition – About,” available at <[http://www.oecd.org/about/0,3347,en\\_2649\\_37463\\_1\\_1\\_1\\_1\\_37463,00.html](http://www.oecd.org/about/0,3347,en_2649_37463_1_1_1_1_37463,00.html)>.)

<sup>7</sup> Mitchell, A. and Farnik, J., “Global Administrative Law: Can It Bring Global Governance to Account?,” *Federal Law Review* 37 (2009), p. 238.

<sup>8</sup> As of December 1, 2009, Article 81 has been renumbered as Article 101 under the *Treaty on the Functioning of the European Union*. Up until the *Treaty Establishing the European Communities* (the “EC Treaty”) was entered into force on May 1, 1999, Article 81 was previously numbered as Article 85 under the 1957 *Treaty Establishing the European Community* (also known as the *Treaty of Rome*). Article 82 (monopolization behavior) also underwent similar re-numberings. Under the *Treaty of Rome* it was numbered Article 86 and under the current *Treaty on the Functioning of the European Union*, it is numbered Article 102. For the sake of consistency, in this paper we will refer to all EU anticompetitive agreement enforcement actions between 1994 and 2009 as Article 81.

neutral and, if anything, the evidence indicates that enforcement authorities are more likely to target and punish domestic firms than foreign firms.

We proceed in Section II by developing the three potential views on global antitrust enforcement of anti-competitive agreements. This section includes a review of the institutional framework of major antitrust authorities, including the recent trends in fines. We also propose some tests to help distinguish among the three hypotheses articulated above. We present our empirical analyses in Section III and offer concluding remarks in Section IV.

## **II. Context and Hypotheses Concerning Global Antitrust Enforcement**

### **A. Growth of Global Antitrust Enforcement**

The scope of antitrust enforcement has expanded to a degree that countries currently representing over seventy percent of the world's gross domestic product have well-developed antitrust policies and fairly robust enforcement mechanisms in place.<sup>9</sup> If the passage of the Sherman Act in 1890 marks the beginning of antitrust enforcement, then the US share of world GDP at that time – less than twenty percent – provides a base level from which this dramatic rise followed.<sup>10</sup> Among the most important global expansions of antitrust enforcement since the Sherman Act inception are the enactment of the Japanese Antimonopoly Act in 1947,<sup>11</sup> the passage of the European Economic Community Treaty (“Treaty of Rome”) in 1957 which included some antitrust articles,<sup>12</sup> and the adoption of the Antimonopoly Act in China in August 2008.<sup>13</sup> In the last 20 years, the number of countries (or supra-national entities) with authorizing antitrust legislation has increased from 21 in 1986 to 70 in 1996 and

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<sup>9</sup> The seventy percent estimate of world GDP share is based on the fact that the US, Canada, Mexico, Brazil, Argentina, Chile, the European Union, the UK, Japan, South Korea, and Australia, all of which have established antitrust authorities, comprised 71.6% of world GDP in 2007. This percentage overstates the scope of commerce governed by antitrust policies based on the extent to which governments provide goods and service and due to various exemptions to antitrust policy given to particular industries. (The World Bank Data & Statistics, “Key Development Data & Statistics,” available at <<http://web.worldbank.org/WBSITE/EXTERNAL/DATASTATISTICS/0,,contentMDK:20535285~menuPK:1390200~pagePK:64133150~piPK:64133175~theSitePK:239419,00.html>>.)

<sup>10</sup> The less than 20 percent estimate of world GDP share is based on the fact that US GDP as a share of world GDP was 8.8% in 1870 and 18.9% in 1913. (Maddison, A. “HS-8: The World Economy, 1-2001 AD,” *The World Economy, Historical Statistics*, Paris: OECD (2001) P. 259, 241-263, available at <<http://www.ggdc.net/Maddison/>>.)

<sup>11</sup> Act on Prohibition of Private Monopolization and Maintenance of Fair Trade (Act No. 54), (1947), available at <[http://www.jftc.go.jp/e-page/legislation/ama/amended\\_ama.pdf](http://www.jftc.go.jp/e-page/legislation/ama/amended_ama.pdf)>.

<sup>12</sup> Compliance Manuals for the New Antitrust Era (1990), Section of Antitrust Law, American Bar Association

118 in 2010.<sup>14</sup> Appendix A provides a summary of the institutional framework and legislation underlying antitrust enforcement by the EU and the US DoJ, the two authorities studied here. Appendix A also describes the dataset used in this paper, and the methodology used by the EU and the US DoJ for setting fines in response to anti-competitive agreements.

Especially in the last ten years, the penalties imposed by central antitrust authorities (as opposed to private parties in the context of private litigation) have increased significantly. **Exhibit 1** depicts the total annual fines and the number of firms fined by the EU from 1994 to 2009 under Article 81 (anti-competitive agreements). Fines have grown dramatically, as sixty percent of the total fines were imposed in the last four years of the sixteen-year period considered in this study. The number of firms fined does not show any clear trend, indicating an increased level of fine per firm. **Exhibit 2** is a scatter plot of all fines (at the firm level) imposed by the EU under Article 81 since 1994.

During the same period in the US, the amount of fines for violations of Section 1 of the Sherman Act (similar to Article 81 in the EU) prosecuted by the US DoJ increased from \$145 million in 1996 to \$602 million in 2007. **Exhibit 3** shows the annual total levels of fines and the number of firms fined under Section 1. **Exhibit 4** is a scatter plot of similar data to that of the EU. These increases in antitrust activities parallel those of many other countries including Japan (12-fold increase in fines between 2001 and 2008),<sup>15</sup> Korea (over 150-fold increase in fines between 1994 and 2007)<sup>16</sup> or even Chile (increase from virtually no fines in the 1990s to a record \$14 million worth of fines in 2008).<sup>17</sup>

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<sup>13</sup> Anti-monopoly Law of the People's Republic of China (Act No. 68), (2008), available at <[http://www.npc.gov.cn/englishnpc/Law/2009-02/20/content\\_1471587.htm](http://www.npc.gov.cn/englishnpc/Law/2009-02/20/content_1471587.htm)>.

<sup>14</sup> Palim, M., "The Worldwide Growth of Competition Law: An Empirical Analysis," *Antitrust Bulletin* 42.1 (1998), pp. 105-145, available at Academic OneFile, Gale, Boston Public Library, <<http://find.galegroup.com.ezproxy.bpl.org/gtx/start.do?prodId=AONE>>; Federal Trade Commission, "Competition & Consumer Protection Authorities Worldwide," available at <<http://www.ftc.gov/oia/authorities.shtm>>.

<sup>15</sup> Japan Fair Trade Commission, Press Releases, "Enforcement Status of the Antimonopoly Act in FY2008," 2, 5 (June 3, 2009), available at <<http://www.jftc.go.jp/e-page/pressreleases/2009/June/090603.pdf>>; "Enforcement Status of the Antimonopoly Act in FY2007," 2, 5 (May 21, 2008), available at <<http://www.jftc.go.jp/e-page/pressreleases/2008/May/080521.pdf>>; "Enforcement Status of Antimonopoly Act in FY2006," 2, 5 (May 30, 2007), available at <<http://www.jftc.go.jp/e-page/pressreleases/2007/May/070530.pdf>>; and "Processing Status of the Antimonopoly Act enforcement in FY2005," 2, 5 (May 31, 2006), available at <[http://www.jftc.go.jp/e-page/pressreleases/2006/June/060615\\_2.pdf](http://www.jftc.go.jp/e-page/pressreleases/2006/June/060615_2.pdf)>.

<sup>16</sup> Korea Fair Trade Commission, Statistics, "Corrections by Type of Measure," available at <<http://eng.ftc.go.kr/statistic/correction.jsp>>; and Korea Fair Trade Commission, Annual Reports for 1997-2009, available at <[http://eng.ftc.go.kr/bbs.do?command=getList&type\\_cd=16](http://eng.ftc.go.kr/bbs.do?command=getList&type_cd=16)>.

<sup>17</sup> Chile cases and their associated fines were obtained from the following two sources: Tribunal de Defensa de la Libre Competencia, "Base de Datos Causas Contenciosas," available at



While we do not ascribe causality in either direction, antitrust enforcement documented above has expanded in parallel with the globalization of the world economy. In part due to multiple successive rounds of international negotiations that significantly decreased import tariffs and other barriers to trade, international economic activity involving multiple jurisdictions has increased significantly over recent decades. For example, imports of goods and services as a percent of global GDP has increased from 12% in 1960 to 19% in 1985 and 28% in 2006.<sup>18</sup> Moreover, according to Erel et al. (2009), cross-country corporate mergers as a share of total world-wide mergers, another indicator of globalization, increased from 30% in 1998 to 45% in 2007.<sup>19</sup> Global foreign direct investment has also increased over time, from \$9.9 billion in 1970 to \$204 billion in 1990 to \$2.1 trillion in 2007.<sup>20</sup>

## B. Hypotheses

Given this context of expanding antitrust enforcement and globalization, an obvious question follows: How do antitrust authorities orient their enforcement actions toward foreign and domestic firms? In investigating this question, we recognize that various antitrust authorities are likely to have different objectives. Nations are inherently different and pursue goals beyond simple “economic efficiency.” These additional goals may be the promotion of small businesses, natural resource extraction or regional economic activity (Canada), economic integration (EU), or “fairness and equity.” This heterogeneity in goals and preferences could reflect factors ranging from differences in the extent of domestic or foreign competition to the importance of various interest groups.<sup>21</sup> As Kerber (2003) notes, “there will always be different objectives of competition laws and different theories about what competition is and what rules

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<<http://www.tdlc.cl/Portal.Base/Web/VerContenido.aspx?GUID=&ID=341>>; and Fiscalía Nacional Económica, “Resoluciones de la H. Comisión Resolutiva,” available at <<http://www.fne.cl/?content=notes&db=jurispru&view=7032b29e8be7cf5f8425733e005e3c80>>.

<sup>18</sup> World Bank, “World Development Indicators,” available at <<http://web.worldbank.org/WBSITE/EXTERNAL/DATASTATISTICS/0,,contentMDK:20398986~menuPK:64133163~pagePK:64133150~piPK:64133175~theSitePK:239419,00.html>>.

<sup>19</sup> Erel, I., Liao R., and Weisbach, M., “World Markets for Mergers and Acquisitions,” *NBER Working paper* (2009), 1,42, available at <<http://www.nber.org/papers/w15132.pdf>>.

<sup>20</sup> World Bank, World Development Indicators, available at <<http://web.worldbank.org/WBSITE/EXTERNAL/DATASTATISTICS/0,,contentMDK:20398986~menuPK:64133163~pagePK:64133150~piPK:64133175~theSitePK:239419,00.html>>.

<sup>21</sup> Fox, E. M., “Antitrust and Regulatory Federalism: Races Up, Down, and Sideways,” *New York University Law Review*, 75(1781), 2000; Guzman, A., “Antitrust and International Regulatory Federalism,” *New York University Law Review*, 76(1142), October 2001, pp. 1142-1163 at pp.1149-1150.

are necessary for the protection of competition. ...the coexistence of different competition laws should be seen as a permanent feature of an international system of competition laws.”<sup>22</sup> Moreover, nation states may not be the only actors pursuing their own objectives. As Mitchell and Farnik (2009) explain, “the field of global governance ... is not populated by a homogenous set of entities... Instead, regulatory authority is shared by an interconnected web of mixed and distinct entities including trans-governmental networks and public international organizations in addition to national governments.”<sup>23</sup>

We proceed by identifying three potential policy approaches by antitrust authorities:

- Enforcement decisions by a particular antitrust authority could be made with a view to social welfare and without regard to the nationality of the firms investigated. We refer to this as the *neutral hypothesis*.
- Enforcement decisions could become subject to protectionist pressures, with the expectation that antitrust authorities would favor domestic firms over foreign firms. The potential consequences of such antitrust policies would parallel those associated with restraints on trade, including reduced innovation, inefficient allocations of national resources and, ultimately, loss in social welfare. We refer to this as the *protectionist hypothesis*.
- Enforcement decisions may target domestic firms, either to avoid tit-for-tat from foreign enforcement agencies or to maximize deterrence domestically. We refer to this as the *domestic hypothesis*.

*a. Factors Favoring the Neutral Enforcement Hypothesis*

Global antitrust policy is influenced by a large number of *bilateral agreements*, which encourage authorities to cooperate through information sharing and consultations. They also call for antitrust authorities to account for the impact of anticompetitive conduct on other countries when considering an

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<sup>22</sup> Kerber, W. (2003), “An International Multi-Level System of Competition Laws: Federalism in Antitrust,” *German Working Papers in Law and Economics*, 2003(13).

<sup>23</sup> Mitchell, A. and Farnik, J., “Global Administrative Law: Can It Bring Global Governance to Account?,” *Federal Law Review* 37 (2009), p. 238.

enforcement action.<sup>24</sup> Such agreements are likely to encourage convergence and neutrality in enforcement practices.

For example, the EU has “dedicated cooperation agreements on competition policy” with the US, Canada, Japan and Korea, under which the sides are supposed to exchange information, coordinate enforcement, ask each other to take enforcement actions and account for each other’s interests.<sup>25</sup> Additionally, the EU also cooperates with at least 30 other national competition policy authorities via other “specific agreements or regular contacts.”<sup>26</sup>

The US has understandings with many different countries with respect to notifications, consultations, and cooperation in antitrust matters and has more than twelve Mutual Legal Assistance Treaties (“MLATs”) outlining mutual assistance on criminal law enforcement matters.<sup>27</sup> Most recently, the Antitrust Division of the DoJ has been working with China to assist in enforcement of its recent antitrust statutes.<sup>28</sup>

Further factors favoring neutral enforcement include *multilateral platforms* such as the International Competition Network (ICN) launched in October 2001 by antitrust authorities from fourteen governments, including Australia, Canada, EU, Japan, Korea, Mexico, UK, and US,<sup>29</sup> the “Competition

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<sup>24</sup> Guzman, A., “Antitrust and International Regulatory Federalism,” *New York University Law Review*,” 76(1142), October 2001, pp. 1142-1163 at pp.1144-1146.

<sup>25</sup> European Community Competition Policy, “Bilateral Relations on Competition Issues,” available at <<http://ec.europa.eu/competition/international/bilateral/>>; “European Commission Annual Report on Competition Policy – 2007,” p. 147, available at <[http://ec.europa.eu/competition/annual\\_reports/2007/en.pdf](http://ec.europa.eu/competition/annual_reports/2007/en.pdf)>.

<sup>26</sup> European Community Competition Policy, “Bilateral Relations on Competition Issues,” available at <<http://ec.europa.eu/competition/international/bilateral/>>.

<sup>27</sup> Guzman, A., “Antitrust and International Regulatory Federalism,” *New York University Law Review*,” 76(1142), October 2001, pp. 1142-1163 at p.1145; Federal Trade Commission, “International Antitrust and Consumer Protection Cooperation Agreements”, available at <<http://www.ftc.gov/oia/agreements.shtm>>; U.S. Department of Justice, Antitrust Division, “Antitrust Enforcement Guidelines for International Operations,” available at <<http://www.usdoj.gov/atr/public/guidelines/internat.htm>>.

<sup>28</sup> U.S. Department of Justice, Antitrust Division, “Update: Protecting and Promoting Competition,” Spring 2009, p. 4, available at <<http://www.usdoj.gov/atr/public/244014.pdf>>; As additional examples, Chile has antitrust cooperation agreements with Canada, Costa Rica, Mexico, El Salvador, and Brazil. (Fiscalia Nacional Economica, “Acuerdos de Cooperacion,” (in Spanish), available at <<http://www.fne.cl/?content=notes&db=actualidad&view=2c41b664d320a0eb8425733f0054c768>>.) Japan has “Economic Partnership Agreements” with Thailand, Chile, Philippines, Malaysia, Mexico and Singapore, and “Anti-Monopoly Cooperation Agreements” with Australia, Canada, the EU and the US. (Japan Fair Trade Commission, “International Relations – International Agreements,” available at <<http://www.jftc.go.jp/e-page/internationalrelations/index.html>>.)

<sup>29</sup> The ICN originated from recommendations made by the now defunct International Competition Policy Advisory Committee (ICPAC), a group formed in 1997 by then U.S. Attorney General Janet Reno and Assistant Attorney General for Antitrust Joel Klein. ICPAC’s goal was to address global competition policy issues such as multi-jurisdictional mergers and the interaction between trade and competition. The ICPAC advocated for greater convergence of competition policy and for the establishment of an entity where government officials, firms and other parties could consult on competition policy

Law and Policy” program at the United Nations Conference for Trade and Development (UNCTAD),<sup>30</sup> or the OECD Competition Committee.<sup>31</sup>

An altogether different factor favoring the *neutral hypothesis* is the potential for retaliation. Similar to the concerns about actions that might trigger trade wars, antitrust authorities might be constrained to take actions that protect domestic firms knowing that their domestic firms want a “level playing field” when they compete internationally.

Testing for the neutrality of an antitrust policy is complicated by the variation in the underlying probability and extent of antitrust violation by domestic versus foreign firms. However, conditional on similar rates of violations, one would expect the share of domestic versus foreign firms prosecuted as well as the share of fines levied on domestic versus foreign firms to reflect the share of domestic versus foreign economic activity.

*b. Factors Favoring the Protectionist Enforcement Hypothesis*

Although bilateral agreements and multilateral cooperation among antitrust authorities may increase the likelihood of policy convergence and neutral enforcement actions, these ultimately are statements of intentions with little legal enforcement potential, and might not protect national antitrust authorities from pressure to restrain foreign competition through differential enforcement. Bilateral

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matters. (International Competition Network, “History of the ICN,” available at <<http://www.internationalcompetitionnetwork.org/index.php/en/about-icn/history>>; International Competition Network, “About the ICN,” available at <<http://www.internationalcompetitionnetwork.org/index.php/en/about-icn>>.) In a similar vein to the ICN, in 1996 the WTO established the “Working Group on the Interaction between Trade and Competition Policy” (WGTC) to study the interaction between trade and antitrust policy. The WTO “recognized the case for a multilateral framework to enhance the contribution of competition policy to international trade..., and the need for enhanced technical assistance and capacity-building in this area.” Antitrust issues studied by the WGTC included “transparency, non-discrimination and procedural fairness,” “provisions on hardcore cartels,” and “reinforcement of competition institutions in developing countries through capacity building.” However, in August 2004, the WTO decided it would no longer pursue the issue of antitrust policy, and the WGTC has been inactive since. (World Trade Organization, “Interaction Between Trade and Competition Policy,” available at <[http://www.wto.org/english/tratop\\_e/comp\\_e/comp\\_e.htm](http://www.wto.org/english/tratop_e/comp_e/comp_e.htm)>. World Trade Organization, “Working Group on the Interaction between Trade and Competition Policy (WGTC) – History, Mandates and Decisions”, available at <[http://www.wto.org/english/tratop\\_e/comp\\_e/history\\_e.htm#singapore](http://www.wto.org/english/tratop_e/comp_e/history_e.htm#singapore)>.)

<sup>30</sup> United Nations Conference for Trade and Development, “Competition Law and Policy,” available at <<http://www.unctad.org/Templates/StartPage.asp?intItemID=2239&lang=1>>.

<sup>31</sup> Organization for Economic Co-Operation and Development, “Competition – About,” available at <[http://www.oecd.org/about/0,3347,en\\_2649\\_37463\\_1\\_1\\_1\\_1\\_37463,00.html](http://www.oecd.org/about/0,3347,en_2649_37463_1_1_1_1_37463,00.html)>; Organization for Economic Co-Operation and Development, “Global Forum on Competition,” available at <[http://www.oecd.org/document/28/0,3343,en\\_40382599\\_40393118\\_40424028\\_1\\_1\\_1\\_1,00.html](http://www.oecd.org/document/28/0,3343,en_40382599_40393118_40424028_1_1_1_1,00.html)>.

agreements are not binding and do not trump sovereignty or national interest.<sup>32</sup> Such agreements do not limit the discretion of regulatory authorities in any jurisdiction and none of them has terms that a US court, for example, could enforce.<sup>33</sup> The ICN, for example, explicitly recognizes that it “does not exercise any rule-making function ... [and] individual competition authorities decide whether and how to implement the recommendations, through unilateral, bilateral or multilateral arrangements.”<sup>34</sup> Therefore, antitrust agencies, like all other national agencies, are policy instruments whose responsibility is first and foremost to their national constituents.

In addition, while the threat of retaliation may be a constraint in some cases, individual countries may choose to deviate from neutral antitrust policies. Political benefits from helping particular domestic firms may outweigh prospective costs from potential retaliation as interest groups may capture antitrust policy as a result of superior lobbying.<sup>35</sup> “National champions” and export industries may lobby for strategic antitrust policy through well organized industry organizations and other low cost strategies (e.g., political contributions). Consumers who have high organizational costs or live abroad and have no voice in domestic politics are likely to be less successful in advocating their interests resulting in greater pressure from *intra*-jurisdictional sources arguing for short-term domestic profit maximization.<sup>36</sup> Therefore, a country may find it *individually rational* to follow a “beggar-my-neighbor” strategy, resulting in a *prisoner’s dilemma* that may lead to a defection race, a deterioration of antitrust policy, and a reduction in world welfare.<sup>37</sup> A recent paper by Dinç and Erel suggest that protectionist (they call it

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<sup>32</sup> Guzman, A., “Antitrust and International Regulatory Federalism,” *New York University Law Review*, 76(1142), October 2001, pp. 1142-1163 at pp.1144-1146.

<sup>33</sup> Stephan, P., “Against International Cooperation,” in *Competition Laws in Conflict*, Epstein, R., and Greve, M., editors, 2004, American Enterprise Institute Press, pp. 66-98.

<sup>34</sup> International Competition Network, “About the ICN,” available at <<http://www.internationalcompetitionnetwork.org/index.php/en/about-icn>>.

<sup>35</sup> Kerber, W., Budzinski, O., “Competition of Competition Laws: Mission Impossible?” in *Competition Laws in Conflict*, Epstein, R., and Greve, M., editors, 2004, American Enterprise Institute Press, pp. 31-65.

<sup>36</sup> Kerber, W., Budzinski, O., “Competition of Competition Laws: Mission Impossible?” in *Competition Laws in Conflict*, Epstein, R., and Greve, M., editors, 2004, American Enterprise Institute Press, pp. 31-65.

<sup>37</sup> Kerber, W., Budzinski, O., “Competition of Competition Laws: Mission Impossible?” in *Competition Laws in Conflict*, Epstein, R., and Greve, M., editors, 2004, American Enterprise Institute Press, pp. 31-65; Stephan, P., “Against International Cooperation,” in *Competition Laws in Conflict*, Epstein, R., and Greve, M., editors, 2004, American Enterprise Institute Press, pp. 66-98.

nationalist) policies are expressed through government intervention in the context of mergers and acquisition with assistance provided to domestic bidders and obstacles raised in front of foreign bidders.<sup>38</sup>

Beyond short-run national interest in pursuing protectionist antitrust policy, national authorities may also apply antitrust policy to *selectively* counter recent decreases in tariffs and quotas resulting from successive rounds of trade negotiations. While GATT/WTO membership has increased from 77 in 1970 to 152 in 2008,<sup>39</sup> average import tariff rates for GATT/WTO members decreased from 31.6% in 1985 to 15.6% in 1995 and to 8.4% in 2007.<sup>40</sup> This provides incentives to turn to *non-traditional* tools, such as antitrust policy, to protect domestic interests including antitrust exemptions given to export cartels, strategic use of merger control to create “national champions,” or the promotion of research-and-development firm cooperation in key sectors such as infant industries, defense industries or trend-setting technologies.<sup>41</sup> Guzman (2004) points specifically to international aviation, energy, ocean shipping, and communications as industries that have been privileged from an antitrust standpoint in the US.<sup>42</sup>

The US, among other nations, has a rich history of protectionist antitrust policy legislation with several Acts that support, among other industries, domestic “export cartels.”<sup>43</sup> These acts have been characterized as “alternatives to protectionist responses such as quotas, higher duties, export subsidies,

<sup>38</sup> Serdar Dinç and Isil Erel (Sept 2009) “Economic Nationalism in Mergers & Acquisitions.” Fisher College of Business Working Paper Series. Dice Center WP 2009-24.

<sup>39</sup> WTO, “The 128 Countries that had Signed GATT by 1994,” available at <[http://www.wto.org/english/thewto\\_e/gattmem\\_e.htm](http://www.wto.org/english/thewto_e/gattmem_e.htm)>; WTO, “Members and Observers,” available at <[http://www.wto.org/english/thewto\\_e/whatis\\_e/tif\\_e/org6\\_e.htm](http://www.wto.org/english/thewto_e/whatis_e/tif_e/org6_e.htm)>.

<sup>40</sup> Ng, Francis K. T., “Trends in Average Applied Tariff Rates in Developing and Industrial Countries, 1981-2007,” The World Bank, Data on Trade and Import Barriers, available at <<http://econ.worldbank.org/WBSITE/EXTERNAL/EXTDEC/EXTRESEARCH/0,,contentMDK:21051044~pagePK:64214825~piPK:64214943~theSitePK:469382,00.html>>. These average tariff rates are not weighted by product or country size.

<sup>41</sup> Utton, M., “*International Competition Policy – Maintaining Open Markets in the Global Economy*,” Edward Elgar Publishing, 2006, p. 39; Cadot, O., Grether, J.-M., and de Melo, J., “Trade and Competition Policy: Where Do We Stand?,” *working paper*, Université de Neuchâtel, 1, 1 (2000), available at <<http://www.unige.ch/ses/ecopo/demelo/PolicyPapers/TRCOMP.pdf>>; Kerber, W., Budzinski, O., “Competition of Competition Laws: Mission Impossible?” in *Competition Laws in Conflict*, Epstein, R., and Greve, M., editors, 2004, American Enterprise Institute Press, pp. 31-65.

<sup>42</sup> Guzman, A., “The Case for International Antitrust,” in *Competition Laws in Conflict*, Epstein, R., and Greve, M., editors, 2004, American Enterprise Institute Press, pp. 99-125.

<sup>43</sup> “Webb-Pomerene Act,” 15 U.S.C. §§ 61-66 (1918), available at <<http://www.law.cornell.edu/uscode/15/61.shtml>>; “Export Trading Company Act of 1982,” 15 U.S.C. §§ 4001-4021 (1994), available at <[http://www.law.cornell.edu/uscode/15/usc\\_sup\\_01\\_15\\_10\\_66\\_20\\_1.html](http://www.law.cornell.edu/uscode/15/usc_sup_01_15_10_66_20_1.html)>; “Foreign Trade Antitrust Improvements Act of 1982,” 15 U.S.C. § 6a (1994), available at <[http://www4.law.cornell.edu/uscode/html/uscode15/usc\\_sec\\_15\\_00000006---a000-.html](http://www4.law.cornell.edu/uscode/html/uscode15/usc_sec_15_00000006---a000-.html)>.

etc.”<sup>44</sup> The *Webb-Pomerene Act* of 1918 provides antitrust exemption for firms that engage in collective export sales of goods, although it is not applicable if the exporting activity has an anti-competitive effect in the US, and it does not provide immunity from prosecution by foreign antitrust authorities.<sup>45</sup> US “associations” currently exempted under this Act include the American Cotton Exporters Association, the California Dried Fruit Export Association, and the Phosphate Chemicals Export Association.<sup>46</sup> The *Export Trading Company Act* of 1982 allows US exporting firms to obtain a license from the government which grants immunity from antitrust laws. Again, the firms must demonstrate that the export conduct will not restrain competition in the US and will not result in the resale of the good in the US.<sup>47</sup>

Symmetrically, US laws often protect domestic firms against “unfair” competition from foreign sources. For example, the *Revenue (Anti-dumping) Act* of 1916 is a trade statute against importers who sell goods into the US at prices below the prices charged in their home market.<sup>48</sup> The *Tariff Act* of 1930 prohibits “unfair methods of competition ... in the importation of articles into the US” if the effect is to injure a US industry, and it allows US firms to petition the government for offsetting duties on foreign imports sold in the US at unreasonable low prices.<sup>49</sup> The *Trade Act* of 1974 states that US firms may petition the government for relief if a good is “being imported into the US in such increased quantities as to be a substantial cause of serious injury” to the domestic firm. The government may then take action such as restrict imports or enforce US trade agreement rights.<sup>50</sup>

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<sup>44</sup> Bruce W. Marion, “U.S. Competitiveness in World Markets: What is the Relationship to U.S. Antitrust Policies?”, *working paper*, University of Wisconsin-Madison, 1,6 (2001), available at <http://www.aae.wisc.edu/fsrg/publications/Archived/wp-101.pdf>.

<sup>45</sup> U.S. Department of Justice, Antitrust Division, “Antitrust Enforcement Guidelines for International Operations,” available at <http://www.usdoj.gov/atr/public/guidelines/internat.htm>.

<sup>46</sup> Federal Trade Commission, “Webb-Pomerene Act Filings,” available at <http://www.ftc.gov/os/statutes/webbpomerene/index.shtm>.

<sup>47</sup> U.S. Department of Justice, Antitrust Division, “Antitrust Enforcement Guidelines for International Operations,” available at <http://www.usdoj.gov/atr/public/guidelines/internat.htm>.

<sup>48</sup> U.S. Department of Justice, Antitrust Division, “Antitrust Enforcement Guidelines for International Operations,” available at <http://www.usdoj.gov/atr/public/guidelines/internat.htm>.

<sup>49</sup> U.S. Department of Justice, Antitrust Division, “Antitrust Enforcement Guidelines for International Operations,” available at <http://www.usdoj.gov/atr/public/guidelines/internat.htm>.

<sup>50</sup> U.S. Department of Justice, Antitrust Division, “Antitrust Enforcement Guidelines for International Operations,” available at <http://www.usdoj.gov/atr/public/guidelines/internat.htm>.

The EU also provides antitrust exemption to some of its industries. For example, it exempts certain vertical agreements that concern the purchase of intellectual property rights,<sup>51</sup> and certain horizontal agreements that involve research and development (in particular industrial property rights).<sup>52</sup> It also exempts certain agreements in the insurance sector that deal with the exchange of information for the purpose of calculating risks, the joint definition of standard conditions, and the formation of insurance pools to cover large or exceptional risks.<sup>53</sup> Finally, export cartels are also exempted in the EU, as its competition policy law applies to inter-member trade relations only, and therefore agreements between firms to coordinate exports are not covered under the law.<sup>54</sup>

A protectionist antitrust policy could cause favoritism towards potentially inefficient domestic industries and potential deterioration of global welfare. Efficient firms will find it harder to penetrate foreign markets and may be restricted to smaller domestic markets. In industries with large set-up costs, this restriction may discourage research and innovation and prevent firms from enjoying efficiency and economies of scale that would otherwise be materialized in a larger and broader market. Moreover, the mere threat of a protectionist policy may discourage foreign firms from even considering expanding into such a protected market, imposing a barrier to entry and ultimately harming domestic consumers.

*c. Factors Favoring Domestically-Oriented Antitrust Policies*

In general, individual antitrust authorities may focus their enforcement efforts on domestic firms because (a) they have differential advantages in investigating and prosecuting domestic entities, and (b) such efforts yield greater deterrent benefits. Regarding the former, antitrust authorities encounter a range of practical problems in dealing with foreign firms, including gaining access to witnesses, forcing responses to discovery requests, translating information, and imposing penalties. Even when their

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<sup>51</sup> Europa, Summaries of EU Legislation, “Exemption for Certain Vertical Agreements,” available at <[http://europa.eu/legislation\\_summaries/competition/firms/126071\\_en.htm](http://europa.eu/legislation_summaries/competition/firms/126071_en.htm)>.

<sup>52</sup> Europa, Summaries of EU Legislation, “Exemption for Certain Horizontal Agreements,” available at <[http://europa.eu/legislation\\_summaries/competition/firms/126068\\_en.htm](http://europa.eu/legislation_summaries/competition/firms/126068_en.htm)>.

<sup>53</sup> Europa, Summaries of EU Legislation, “Exemption for Certain Agreements in the Insurance Sector,” available at <[http://europa.eu/legislation\\_summaries/competition/firms/126097\\_en.htm](http://europa.eu/legislation_summaries/competition/firms/126097_en.htm)>.

<sup>54</sup> Utton, M., “*International Competition Policy – Maintaining Open Markets in the Global Economy*,” Edward Elgar Publishing, 2006, p. 24.



enforcement efforts are successful, authorities may believe that the deterrent effects are greater from the prosecution of domestic companies given their collective share of gross domestic product.

These points should be put in the context of greater trade liberalization and economic globalization. As imports into a country increase, domestic firms are exposed to more competition, decreasing the need for more stringent domestic competition policy. Trade liberalization may thus result in stricter domestic antitrust standards to ensure long run competitiveness of domestic industries, expanded output and increased exports.<sup>55</sup>

Increased trade may also decrease the optimal level of domestic antitrust enforcement as larger domestic firms may become welfare enhancing as economies of scale result in greater international competitiveness and increased exports (e.g., airline industry).<sup>56</sup> Under increasing returns to scale, allowing a national natural monopolist may be the optimal national strategy.<sup>57</sup> For example, the merger between the German energy firms E.ON and Ruhrgas was promoted at the time as an efficiency-enhancing merger that would increase their competitiveness and efficiency outside of their domestic market.<sup>58</sup> Notwithstanding this point, a domestically-oriented antitrust policy should cause domestic firms to become more efficient and compete more effectively in international markets.

### C. Hypothesis Testing

Conditional on a company operating in a domestic and a foreign jurisdiction and having similar pricing behaviors across jurisdictions, one would expect that:

- If an authority is neutral in its enforcement, a firm's likelihood of being investigated by *foreign* or *domestic* antitrust authorities and any potential fine from a *foreign* or *domestic* authority should be similar.

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<sup>55</sup> Kerber, W., Budzinski, O., "Competition of Competition Laws: Mission Impossible?" in *Competition Laws in Conflict*, Epstein, R., and Greve, M., editors, 2004, American Enterprise Institute Press, pp. 31-65.

<sup>56</sup> Kerber, W., Budzinski, O., "Competition of Competition Laws: Mission Impossible?" in *Competition Laws in Conflict*, Epstein, R., and Greve, M., editors, 2004, American Enterprise Institute Press, pp. 31-65.

<sup>57</sup> Stephan, P., "Against International Cooperation," in *Competition Laws in Conflict*, Epstein, R., and Greve, M., editors, 2004, American Enterprise Institute Press, pp. 66-98.

<sup>58</sup> Kerber, W., Budzinski, O., "Competition of Competition Laws: Mission Impossible?" in *Competition Laws in Conflict*, Epstein, R., and Greve, M., editors, 2004, American Enterprise Institute Press, pp. 31-65.

- If an authority is protectionist in its enforcement, a firm will be more likely to be investigated and fined by a *foreign* antitrust authority.
- If an authority is domestically focused in its enforcement, a firm will be more likely to be investigated and fined by a *domestic* antitrust authority.

### **III. Empirical Analysis**

In this section, we empirically test the three hypotheses mentioned above. One empirical challenge is to compare enforcement behaviors for domestic and foreign firms holding constant important determinants of relative enforcement probabilities and strengths, including whether the firm is operating in the foreign jurisdiction and whether the alleged antitrust behavior is similar across jurisdictions. In the sections below we describe the data used in the empirical analysis, provide some aggregate results across the jurisdictions which do not account for the location of firms' operations, and then develop our test of hypotheses and implement it. We focus on the US and EU jurisdictions both because of their importance worldwide for antitrust enforcement and because data limitations in other jurisdictions prevent any formal test of our hypotheses.

#### **A. Data**

We collected data on antitrust fines imposed over the period 1994 to mid-2009 by the EU Competition Commission and the US DoJ. The focus is on anti-competitive horizontal agreements among firms (e.g., price-fixing). We also distinguished between foreign and domestic firms. Appendix A to this paper provides further details on the data sources and data collection methodology for each jurisdiction of these two jurisdictions.

#### **B. Fines by Jurisdiction**

Aggregate results presented in the previous sections demonstrate the increase in antitrust enforcement activities across both jurisdictions. The relative levels of fines imposed by the EU (Article 81) and the US DoJ (Section 1) are similar at €33.3 million and \$34.6 million per firm, respectively

(Exhibits 2 and 4). In both jurisdictions, a few very large settlements skew the average. In the EU, the largest penalties under Article 81 were imposed on Saint-Gobain (€96 million) as part of a car glass conspiracy, and Gaz de France and E.ON Ruhrgas (€53 million each) over their participation in a gas market allocation case. The US DoJ levied its largest penalties on Hoffmann-La Roche (\$500 million), LG Display (\$400 million), and Air France and KLM (\$350 million) over their participation in the Vitamins, LCD Panels, and Air Transportation-Cargo cartels, respectively.

### **C. Neutral, Protectionist, or Domestically-Oriented: Number of Firms and Level of Fines**

To start testing enforcement hypotheses, we first examine the distribution of fines levied by the US DoJ and the EU among domestic and foreign firms. Exhibit 5 shows the number of EU and non-EU firms fined by the European Commission under Article 81 and Exhibit 6 shows the total level of fines levied on EU and non-EU firms under Article 81. EU firms seem to be disproportionate targets of enforcement and also to pay the bulk of the fines levied between 1994 and 2009. On the contrary, in the US, enforcement of Section 1 of the Sherman Act shown in Exhibits 7 and 8 suggest disproportionate enforcement aimed at non-US firms.

Determining a threshold to distinguish between neutral, domestic and protectionist antitrust policies is complicated by many factors. First, the US and EU economies are of comparable size but imports as a percentage of total consumption were at most 20% in the US and at most 30% in the EU between 1994 and 2009.<sup>59</sup> Second, US firms which have been under antitrust scrutiny for over a century may be less prone to antitrust violation than European firms. If so, neutral enforcement policies in the US and the EU would result in greater domestic enforcement against domestic firms in Europe and foreign (e.g., European) firms in the US. Hence, conclusions based on simple descriptive statistics may be misleading.

To determine whether the disproportionate enforcement and fines against foreign firms in the US is explained at least in part by the greater percentage of GDP that is imported from abroad, Exhibits 9 and 10 map enforcement relative to domestic consumption in the US and in the EU. Exhibit 9 shows that non-US firms are fined disproportionately relative to their share of GDP and that the fine amounts are

also disproportionately levied from foreign firms. **Exhibit 10**, on the contrary, shows that foreign firms seem less likely to be targeted by EU authorities than their share of economic activity would suggest, particularly in the last few years. However, this analysis of probability of fines and amounts of fines to domestic and foreign firms, even after taking into account the share of foreign economic activity, falls short of a test of the neutral/protectionist/domestic hypotheses because it does not hold constant the sample of firms in the two jurisdictions. Differences may therefore simply reflect differential firm behaviors.

#### **D. Neutral, Protectionist, or Domestically-Oriented: Conditional Probability of Receiving a Fine**

To ensure that differentials in enforcement patterns result from different behaviors on the part of the authorities, we conducted a number of conditional tests which capture the probability of being investigated given action by the other jurisdiction. To do so, we matched the names of the firms investigated in each of the two jurisdictions and calculated conditional probabilities. For example, for a *domestic* firm, the probability of being fined by the *foreign* jurisdiction given a fine in its *domestic* jurisdiction can be expressed as:

$$\Pr(Fined^{Foreign\ Jurisdiction} | Fined^{Domest\ Jurisdiction}, Domestic\ firm)$$

Conversely, the conditional probability of a *foreign* firm being fined by a domestic jurisdiction conditional on being fined by its foreign jurisdiction can be expressed as:

$$\Pr(Fined^{Domest\ Jurisdiction} | Fined^{Foreign\ Jurisdiction}, Foreign\ firm)$$

We proceeded by estimating these probabilities with a simple frequency estimator for the EU and US antitrust authorities. For example:

$$\Pr(Fined^{US\ DoJ} | Fined^{EU}, US\ firm) = \frac{\# US\ firms\ fined\ in\ US\ and\ EU}{\# US\ firms\ fined\ in\ EU}$$

$$\Pr(Fined^{US\ DoJ} | Fined^{EU}, EU\ firm) = \frac{\# \text{ EU firms fined in US and EU}}{\# \text{ EU firms fined in EU}}$$

Each of these conditional probabilities provides an estimate of the normalized probability of antitrust authorities imposing a fine on a domestic versus a foreign firm where the enforcement observed by the foreign antitrust entity is used as the normalizing instrument.

To ensure that these conditional probabilities are meaningful and don't simply reflect a firm's activity in one jurisdiction but not the other, we restrict the sample to US and EU firms fined by either the EU or the US DoJ that experienced sales in both jurisdictions between 1994 and 2009.<sup>60</sup> Table 1 displays the conditional probability results for these firms. Specifically, the top panel of Table 1 identifies the number of US and EU firms that were fined for anti-competitive agreements in the US and/or in the EU between 1994 and 2009 and that had sales in both the US and the EU. Of the 57 US and EU firms fined by the US DoJ, 23 (40%) were US firms and 34 (60%) were EU firms. Of the 215 US and EU firms fined by the EU, 190 (88%) were EU firms and 25 (12%) were US firms. Again, only 5 of the 23 US firms fined in the US and 19 of the 190 EU firms fined in the EU were also fined by the foreign entity, suggesting less collaboration between the two authorities than may be expected.

The bottom panel of Table 1 uses the same data to calculate conditional probabilities of being fined in one jurisdiction given a fine in the other. Overall enforcement seems greater in the EU than in the US at least when restricting enforcement to anti-competitive agreements. Conditional on being investigated and fined by one jurisdiction, the likelihood of being investigated and fined by the other jurisdiction is still low, suggesting relatively little overlap between the US and EU enforcement activities. For example, the likelihood for a firm being investigated by the foreign authority conditional on having been

<sup>60</sup> A number of steps were taken to determine whether US companies that were fined only by the US DoJ had sales in the EU and whether EU companies that were fined only by the EU had sales in the US. Companies' respective Internet websites often contained maps that indicated geographic sales locations. The "About Us" section of their websites also provided useful evidence of companies' sales, or lack of sales, abroad. Press releases and news articles sometimes contained corroborating evidence in their text. When Internet websites and articles were not sufficient, court documents such as complaints, decisions, and plea agreements were reviewed to ascertain whether a US company had sales in the EU (and vice versa). The Securities and Exchange Commission's Form 10-K's and Form 20-F's also included some information regarding companies' geographic locations. The final sources researched were business registries of the American Chamber of Commerce in Austria, Luxembourg, and Belgium (for US firms) and business registries within the Secretary of State's Offices of Delaware, Wyoming and Nevada (for EU firms). (Austria, Luxembourg, Belgium, Delaware, Wyoming, and Nevada are generally known to be "tax-friendly" towards foreign companies.) Overall, most of the websites provided conclusive evidence of sales abroad; the other sources were researched when Internet website information was insufficient.

fined by the domestic authority is 22% for US firms and 10% for European firms. This may have many causes. First, the two authorities may be coordinating poorly and therefore not be relying on or even aware of evidence developed by the other authority. Second, the two authorities may have different priorities and different philosophies about what types of suspected antitrust violation to focus on.

While there may be many explanations for the patterns observed, it is clear that domestic firms are more likely to be investigated by their own authority than by the foreign jurisdiction. In other words, conditional on being fined in the EU, a firm is more likely to be fined in the US if it is a US firm (20% of the time) than if it is a European firm (10% of the time). Similarly, conditional on being fined in the US, a firm is more likely to be fined in the EU if it is an EU firm (56%) than if it is a US firm (22%). This suggests a *domestic* focus on the part of both the EU and the US authorities. The relative risks across the two jurisdictions, however, are not the same. Overall, US authorities are half as likely as EU authorities to target any entity (foreign or domestic) conditional on the entity being fined in the foreign jurisdiction. A final way to interpret these results is from a given firm's perspective. From the perspective of a US firm, conditional on having been fined in one jurisdiction, the firm has roughly the same probability of being fined in the other jurisdiction (a 22% chance in the EU and a 20% chance in the US). From the perspective of an EU firm, however, the chances are quite different. Conditional on having been fined in the EU, an EU firm has only a 10% chance of being fined in the US (less than half that of a US firm), while conditional on having been fined in the US, an EU firm has a 56% chance of being fined in the EU (more than twice that of a US firm). Overall, the results suggest a domestic focus both in the US and in the EU with more vigorous enforcement across the board in the EU (roughly twice as vigorous).

#### **E. Neutral, Protectionist, or Domestically-Oriented: How Large are the Fines?**

A further method to identify the orientation of antitrust policy is to evaluate the size of the fines imposed on firms (conditional on being fined) and to determine whether foreign firms pay higher fines than domestic firms or vice versa. We approach this issue in two ways. First, we examine the aggregate level of fines imposed for anti-competitive agreements on US firms, European firms and firms from the rest of the world ("ROW"). Table 2 shows that aggregate fine levels were about €14.6 billion in the EU

versus approximately \$5.6 billion in the US. The comparison may be incomplete because, in the US, both State and private class action verdicts may result in very large fines in the US which are not considered here. A second result is that while the US authorities assessed only 10% of their fines on domestic firms, the European Commission assessed over 80% of its fines on its domestic firms. Table 2 also reports the average and median levels of US DoJ and European Commission fines across the three jurisdictions. In all cases, the average fine is higher than the median fine, indicating a skewed distribution of fines, with a few firms receiving very large fines compared to the rest of the group. This is true in the United States and in Europe as clearly visible on Exhibits 2 and 4. Moreover, while the average fine imposed by the US DoJ towards European firms (\$44.8 million) is clearly higher than the average fine towards US firms (\$7.0 million), the average fine imposed by the European Commission towards US firms is about the same as that imposed towards European firms (€25.8 million and €29.0 million, respectively). The results suggest that the US authorities impose higher fines on foreign entities while in the EU, fine levels are comparable for EU and US firms.

Table 3 restricts the review of fine levels to US and EU firms with sales in both jurisdictions. Considering the samples of firms as a whole, fines imposed by both EU and US authorities on EU firms are significantly larger than fines imposed on US firms. The EU authorities impose fines on average 60% higher on EU firms than on US firms while US authorities impose fines on average over twice as large on EU than on US firms. This result is consistent with both a *protectionist* focus on the part of US antitrust authorities with disproportionately larger fines on EU firms and either greater violations or poorer defense by EU firms relative to their US counterparts in both EU and US proceedings. The amounts levied by US authorities on US firms seem significantly skewed with a median fine barely 10% of the average fine indicating that most fines were for small amounts (median is \$1.9 million) with a few large penalties (e.g., \$110 million imposed on UCAR International in 1998 or \$84 million imposed on Dupont Dow Elastomers in 2005).<sup>61</sup>

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<sup>61</sup> The median fine imposed by the EU on EU and US firms is similar despite the widely different average fines. This is because of the significant number of small EU firms which had sales in the US but were only fined in the EU (211 of 231).

#### **IV. Concluding Remarks**

The last twenty years have been characterized by the expanding scope of antitrust enforcement and the simultaneous globalization of commercial activity. With increasingly free trade across the globe, domestic policy makers may be tempted to use antitrust policy as a backdoor to protectionism. In this paper, we have examined the pattern of investigation and fines across multiple jurisdictions to test whether antitrust policy is (i) unified and neutral, (ii) subject to protectionist influences, or (iii) focused on domestic firms for various reasons.

Our results focused on the European Union and the United States suggest little support for the hypothesis that the likelihood of enforcement has been captured by protectionist interests. On the other hand, conditional on being investigated, larger fines imposed on EU firms by both EU and US authorities suggest both greater violations or poorer defense on the part of EU firms as well as a protectionist slant by US enforcement authorities which imposes disproportionately low fines to domestic firms compared to its EU counterpart.



## Appendix A

### Relevant Antitrust Legislation, Fines Methodology, and Data Collection

#### Methodology for Enforcement Actions Towards Anti-Competitive

#### Agreements in the European Union and United States

##### European Union

**Antitrust Legislation** Antitrust policy in the EU is governed by Articles 81 and 82 of the European Community Treaty, and is enforced by the EU Competition Policy Committee.<sup>62</sup> *Cartel* behavior is regulated by Article 81, which prohibits “all agreements between undertakings ... which may affect trade between Member States and which have as their object or effect the prevention, restriction or distortion of competition within the common market.”<sup>63</sup> In particular, it prohibits agreements between firms to:

- (a) “fix ... prices or any other trading conditions;
- (b) limit or control production, markets, technical development, or investment;
- (c) share markets or sources of supply;
- (d) apply dissimilar conditions to equivalent transactions with other trading parties, thereby placing them at a competitive disadvantage;
- (e) make the conclusion of contracts subject to acceptance by the other parties of supplementary obligations which ... have no connection with the subject of such contracts”<sup>64</sup>

**Fines Methodology** Prior to 2006, the European Commission determined the *basic amount* of the fine for violators of Articles 81 and 82 of the EC Treaty by first classifying the *gravity* of the infringement of each firm into:

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<sup>62</sup> “Treaty Establishing the European Community (Nice Consolidated Version)” – Part Three: Community Policies – Title VI: Common Rules on Competition, Taxation and Approximation of Laws – Chapter 1: Rules on Competition – Section 1: Rules Applying to Undertakings, available at <<http://ec.europa.eu/competition/antitrust/legislation/articles.html>>. (“EC Treaty.”) As of December 1, 2009, Article 81 has been renumbered as Article 101 under the *Treaty on the Functioning of the European Union*. Up until the *Treaty Establishing the European Communities* (the “EC Treaty”) was entered into force on May 1, 1999, Article 81 was previously numbered as Article 85 under the 1957 *Treaty Establishing the European Community* (also known as the *Treaty of Rome*). Article 82 (monopolization behavior) also underwent similar re-numberings. Under the *Treaty of Rome* it was numbered Article 86 and under the current *Treaty on the Functioning of the European Union*, it is numbered Article 102.

<sup>63</sup> EC Treaty, Article 81.

<sup>64</sup> EC Treaty, Article 81.

- (a) *minor* (fine between €1,000 and €1 million);
- (b) *serious* (fine between €1 million and €20 million); or
- (c) *very serious* (fine above €20 million).

It then adjusted this basic amount for the *duration* of the infringement, with:

- (a) no adjustment if the duration was less than one year;
- (b) an increase of up to 50% if infringement was between one and five years; and
- (c) an increase of up to 10% per year if infringement was longer than five years.<sup>65</sup>

This methodology was revised in 2006. Under the new guidelines, the Commission now establishes the *basic amount* of the fine in the following sequence:<sup>66</sup>

- (a) calculates the value of sales of the infringing firm in the relevant geographic area within the EC during the last full business year of its participation in the infringement;
- (b) multiplies the value of sales in (a) by a proportion, *not to exceed 30%*, based on the *gravity* of the infringement; this gravity-based proportion is determined “on a case-by-case basis” and it depends on factors such as “the nature of the infringement, the combined market share of all the undertakings concerned, the geographic scope of the infringement and whether or not the infringement has been implemented;”<sup>67</sup>
- (c) multiplies the proportioned amount from (b) by the *number of years* of infringement;
- (d) adds to I a proportion, *between 15% and 25%*, of the value of sales from (a) in order to *deter* firms from engaging in similar behavior in the future.

Next, the Commission may *increase* this basic amount if the infringing firm is either a repeated violator, refuses to cooperate with the investigation, or played a leading role in the infringement (e.g., cartel leader).<sup>68</sup> The Commission then may *decrease* the basic amount if the firm either committed the infringement as a result of negligence, provides evidence that its involvement in the infringement was limited, cooperates with the investigation, or classifies under the “Leniency Rules” (i.e., first cartel member to disclose the infringement).<sup>69</sup>

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<sup>65</sup> European Community, “Guidelines on the Method of Setting Fines Imposed Pursuant to Article 15(2) of Regulation No 17 and Article 65(5) of the ECSC Treaty,” *Official Journal*, C 9, January 14, 1998, pp. 3-5. Available at <[http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:31998Y0114\(01\):EN:NOT](http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:31998Y0114(01):EN:NOT)>.

<sup>66</sup> 2006 Commission Guidelines on Setting Fines.

<sup>67</sup> The Commission also states that this gravity-based proportion will generally be higher for horizontal price-fixing, market-sharing and output-limitation agreements. (2006 Commission Guidelines on Setting Fines.)

<sup>68</sup> 2006 Commission Guidelines on Setting Fines.

<sup>69</sup> 2006 Commission Guidelines on Setting Fines; “Commission Notice on Immunity from fines and reduction of fines in cartel cases,” December 8, 2006, available at <[http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:52006XC1208\(04\):EN:NOT](http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:52006XC1208(04):EN:NOT)>.

Finally, the final amount of the fine “shall not, in any event, exceed 10% of the total turnover in the preceding business year” by the firm.<sup>70</sup> For example, the €1.06 billion fine imposed on Intel on May 13, 2009 represented, according to the Commission, 4.15% of Intel’s turnover in 2008, which is less than the allowable maximum of 10%.<sup>71</sup>

**Data Collection Methodology** Antitrust cases prosecuted by the EU under Articles 81 (anti-competitive agreements) and Article 82 (abuse of dominant position) were located at the website of the EU Competition Commission.<sup>72</sup> For each year between 1994 and mid-2009, cases brought under Articles 81 and 82 that resulted in a fine were identified. For each case, the EU’s official “Commission Decision” and press releases were obtained in order to identify the case number, the parties involved, the location of the parent company of the parties involved, the fine imposed on each firm (in Euros), the date the fine was imposed, and the beginning and ending date of the infringement. This information was then corroborated, to the extent possible, with the antitrust case activity reported at the 1994 – 2008 Annual Reports issued by the Competition Commission.<sup>73</sup>

## United States

**Antitrust Legislation** Antitrust enforcement in the US is primarily governed by the *Sherman Act* of 1890. Violations of this Act are felonies prosecuted by the Antitrust Division (the “Division”) of the Department of Justice (“DoJ”).<sup>74</sup> *Cartel* behavior is regulated by Section 1 of the Sherman Act, which prohibits agreements among firms to limit competition and states that “every contract, combination, ... or conspiracy, in restraint of trade or commerce among the several States, or with foreign nations, is declared to be illegal.”<sup>75</sup> For example, price fixing, market allocation, and bid rigging are criminally prosecuted violations of Section 1 of the Act.<sup>76</sup> These violations are generally assumed to be

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<sup>70</sup> 2006 Commission Guidelines on Setting Fines.

<sup>71</sup> European Commission Press Release, “Memo/09/235,” May 13, 2009, available at <<http://europa.eu/rapid/pressReleasesAction.do?reference=MEMO/09/235&format=HTML&aged=0&language=EN&guiLanguage=en>>.

<sup>72</sup> European Union Competition Commission, “Antitrust Cases (1990 to Date),” available at <<http://ec.europa.eu/competition/antitrust/cases/index.html>>; European Union Competition Commission, “Antitrust Cases, 1964-1998,” available at <[http://ec.europa.eu/competition/antitrust/cases/older\\_antitrust\\_cases.html](http://ec.europa.eu/competition/antitrust/cases/older_antitrust_cases.html)>.

<sup>73</sup> European Union Competition Commission, “Report on Competition Policy,” available at <[http://ec.europa.eu/competition/publications/annual\\_report/index.html](http://ec.europa.eu/competition/publications/annual_report/index.html)>.

<sup>74</sup> U.S. Department of Justice, Antitrust Division, “An Antitrust Primer for Federal Law Enforcement Personnel,” April 2005, available at <<http://www.usdoj.gov/atr/public/guidelines/209114.htm>>.

<sup>75</sup> U.S. Code 15, Section 1, available at <[http://www4.law.cornell.edu/uscode/html/uscode15/usc\\_sec\\_15\\_00000001----000-.html](http://www4.law.cornell.edu/uscode/html/uscode15/usc_sec_15_00000001----000-.html)>.

<sup>76</sup> U.S. Department of Justice, Antitrust Division, “An Antitrust Primer for Federal Law Enforcement Personnel,” April 2005, available at <<http://www.usdoj.gov/atr/public/guidelines/209114.htm>>.

unambiguously harmful, “per se” illegal, and fines may be imposed.<sup>77</sup> *Monopolization* behavior is governed by Section 2 of the Sherman Act, which states that “every person who shall monopolize, or attempt to monopolize ... trade or commerce among the several States, or with foreign nations, shall be deemed guilty of a felony.”<sup>78</sup> Violations of Section 2 are not criminally prosecuted, and US antitrust authorities are not allowed to impose civil fines. However, the Division may apply “equitable relief” remedies towards the infringing firm, such as “conduct remedies” to stop the monopolization behavior (e.g., “cease and desist” provisions, “fencing in” provisions), or more drastic “structural remedies” to change the structure of the firm (e.g., splitting of the firm, divestiture of assets).<sup>79</sup>

Additionally, the *Clayton Act* of 1914, a civil statute carrying no criminal penalties, prohibits practices that “substantially lessen competition or tend to create a monopoly.” These practices include harmful price discrimination (Section 2), vertical restraints such as inefficient tying clauses and exclusive dealing agreements (Section 3), and over-reaching mergers and acquisitions (Section 7). Both the Division and the Federal Trade Commission (“FTC”) are authorized to enforce it.<sup>80</sup>

Finally, the *Federal Trade Commission Act* of 1914 created the FTC and is enforced by it.<sup>81</sup> Section 5 of this Act prohibits “unfair methods of competition in or affecting commerce, and unfair or deceptive acts or practices in or affecting commerce,” but it carries no criminal penalties. This Act has been broadly interpreted to include, among other violations, anti-competitive practices that fall within the Sherman Act, which means that traditionally both the Division and the FTC prosecute firms for infringements of the Sherman Act.<sup>82</sup>

***Fines Methodology*** Before June 2004, violations of Sections 1 or 2 of the Sherman Act were punishable by a fine of up to \$10 million for corporations and up to \$350,000 or three years imprisonment (or both) for individuals. The June 2004 adoption of the Antitrust Criminal Penalty Enhancement and

<sup>77</sup> U.S. Department of Justice, Antitrust Division, “An Antitrust Primer for Federal Law Enforcement Personnel,” April 2005, available at <<http://www.usdoj.gov/atr/public/guidelines/209114.htm>>.

<sup>78</sup> U.S. Code 15, Section 2, available at <[http://www4.law.cornell.edu/uscode/html/uscode15/usc\\_sec\\_15\\_00000002----000-.html](http://www4.law.cornell.edu/uscode/html/uscode15/usc_sec_15_00000002----000-.html)>.

<sup>79</sup> U.S. Department of Justice, Antitrust Division, “An Antitrust Primer for Federal Law Enforcement Personnel,” April 2005, available at <<http://www.usdoj.gov/atr/public/guidelines/209114.htm>>; U.S. Department of Justice, Antitrust Division, “Competition and Monopoly: Single-Firm Conduct Under Section 2 of the Sherman Act,” 2008, pp. XI-XII, 149-163, available at <<http://www.usdoj.gov/atr/public/reports/236681.pdf>>; Whinston, M., *Lectures on Antitrust Economics*, The MIT Press, 2006, pp. 4-10.

<sup>80</sup> U.S. Department of Justice, Antitrust Division, “Antitrust Enforcement and the Consumer,” undated, available at <[http://www.usdoj.gov/atr/public/div\\_stats/211491.htm](http://www.usdoj.gov/atr/public/div_stats/211491.htm)>; Hovencamp, Herbert, “*Federal Antitrust Policy: The Law of Competition and its Practice*,” 2<sup>nd</sup> Edition, 1999, p. 592, 596; Viscusi, W. K., Harrington, J. E., Vernon, J. M., *Economics of Regulation and Antitrust*, Fourth Edition, The MIT Press, 2005, p. 70; Whinston, M., *Lectures on Antitrust Economics*, The MIT Press, 2006, p. 5.

<sup>81</sup> U.S. Department of Justice, Antitrust Division, “Antitrust Enforcement and the Consumer,” undated, available at <[http://www.usdoj.gov/atr/public/div\\_stats/211491.htm](http://www.usdoj.gov/atr/public/div_stats/211491.htm)>.

<sup>82</sup> Hovencamp, Herbert, “*Federal Antitrust Policy: The Law of Competition and its Practice*,” 2<sup>nd</sup> Edition, 1999, p. 592, 596.

Reform Act of 2004<sup>83</sup> increased the fines to up to \$100 million for corporations, and up to \$1 million or 10 years imprisonment for individuals.<sup>84</sup> In practice, judges in the US impose sentences in federal cases based on the US Sentencing Guidelines,<sup>85</sup> which establish fine ranges which the final monetary penalty should fall within.<sup>86</sup> Specifically, the maximum allowed *base fine amount* for a violation of the Sherman Act should be the greatest of:

- (a) \$100 million (\$10 million until 2004);<sup>87</sup>
- (b) the dollar amount corresponding to the *offense level* of an infringing firm, which depends on its volume of sales during the infringement;<sup>88</sup>
- (c) the *pecuniary loss* caused by the firm, usually set at twenty percent of sales of the firm during the infringement.<sup>89</sup>

The \$100 million fine imposed on Archer Daniels Midland in October 1996 for its participation in the lysine cartel was the first time that alternative (c) was used by the Division to obtain a fine greater than the then-allowable maximum of \$10 million under alternative (a). Alternative (c) has been widely used since. Next, minimum and maximum *culpability score multipliers* are applied to the base fine amount to obtain a *fine range*.<sup>90</sup> These multipliers are influenced by factors such as the role the firm played in the infringement, prior criminal history, and the level of cooperation with the investigation. Finally, the firm may have its fine reduced or eliminated under the Division's Corporate Leniency Program if it was the first to come forward.<sup>91</sup> For cases of bid rigging against federal government projects, the DoJ may obtain treble damages under Section 15 of the Clayton Act.<sup>92</sup>

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<sup>83</sup> "Antitrust Criminal Penalty Enhancement and Reform Act of 2004," June 22, 2004, available at <[http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=108\\_cong\\_public\\_laws&docid=f:publ237.108.pdf](http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=108_cong_public_laws&docid=f:publ237.108.pdf)>.

<sup>84</sup> U.S. Department of Justice, Antitrust Division, "An Antitrust Primer for Federal Law Enforcement Personnel," April 2005, available at <<http://www.usdoj.gov/atr/public/guidelines/209114.htm>>.

<sup>85</sup> "2008 Federal Sentencing Guidelines Manual," available at <[http://www.ussc.gov/2008guid/tabcon08\\_1.htm](http://www.ussc.gov/2008guid/tabcon08_1.htm)>.

<sup>86</sup> U.S. Department of Justice, Antitrust Division, "Antitrust Sentencing in the Post-Booker Era: Risks Remain High for Non-Cooperating Defendants," March 30, 2005, available at <<http://www.usdoj.gov/atr/public/speeches/208354.htm>>.

<sup>87</sup> U.S. Department of Justice, Antitrust Division, "An Antitrust Primer for Federal Law Enforcement Personnel," April 2005, available at <<http://www.usdoj.gov/atr/public/guidelines/209114.htm>>; "Antitrust Criminal Penalty Enhancement and Reform Act of 2004," June 22, 2004, available at <[http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=108\\_cong\\_public\\_laws&docid=f:publ237.108.pdf](http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=108_cong_public_laws&docid=f:publ237.108.pdf)>.

<sup>88</sup> 2008 Federal Sentencing Guidelines Manual, Chapter 2, Part R, "Bid-Rigging, Price-Fixing or Market-Allocation Agreements Among Competitors," available at <[http://www.ussc.gov/2008guid/2r1\\_1.htm](http://www.ussc.gov/2008guid/2r1_1.htm)>.

<sup>89</sup> 2008 Federal Sentencing Guidelines Manual, Chapter 8, Part C, "Base Fine," available at <[http://www.ussc.gov/2008guid/8c2\\_4.htm](http://www.ussc.gov/2008guid/8c2_4.htm)>; U.S. Code 18, Section 3571, available at <[http://www4.law.cornell.edu/uscode/html/uscode18/usc\\_sec\\_18\\_00003571----000-.html](http://www4.law.cornell.edu/uscode/html/uscode18/usc_sec_18_00003571----000-.html)>.

<sup>90</sup> 2008 Federal Sentencing Guidelines Manual, Chapter 8, Part C, "Culpability Score," available at <[http://www.ussc.gov/2008guid/8c2\\_5.htm](http://www.ussc.gov/2008guid/8c2_5.htm)>; 2008 Federal Sentencing Guidelines Manual, Chapter 8, Part C, "Minimum and Maximum Multipliers," available at <[http://www.ussc.gov/2008guid/8c2\\_6.htm](http://www.ussc.gov/2008guid/8c2_6.htm)>;

<sup>91</sup> U.S. Department of Justice, Antitrust Division, "An Antitrust Primer for Federal Law Enforcement Personnel," April 2005, available at <<http://www.usdoj.gov/atr/public/guidelines/209114.htm>>.

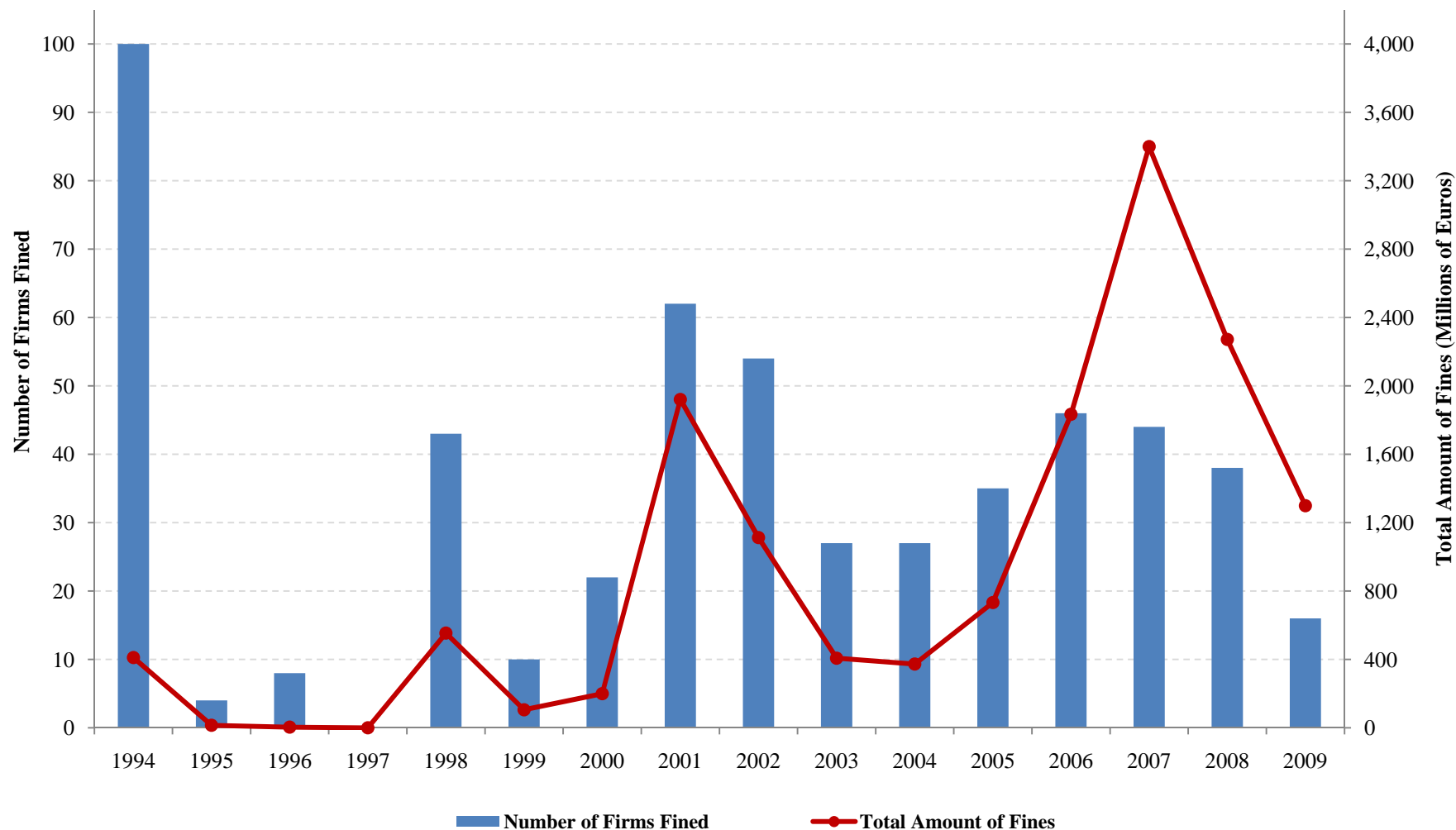
<sup>92</sup> U.S. Code 15, Section 15a.

***Data Collection Methodology*** A list of firms criminally prosecuted by the Antitrust Division of the US DoJ under Section 1 of the Sherman Act (horizontal agreements) from 1994 to mid-2009 was first obtained from the DoJ. Based on this list, press releases and plea agreements were obtained from the DoJ's website in order to collect information on the case number, the parties involved, the location of the parent company of the parties involved, the fine imposed on each firm (in US dollars), the date the fine was imposed, and the beginning and ending date of the infringement.<sup>93</sup>

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<sup>93</sup> Antitrust Division of the US Department of Justice, "Press Releases," available at <[http://www.usdoj.gov/atr/public/press\\_releases/2009/index09.htm](http://www.usdoj.gov/atr/public/press_releases/2009/index09.htm)>; Antitrust Division of the US Department of Justice, "Search Tool," available at <<http://www.usdoj.gov/atr/tools.html>>.

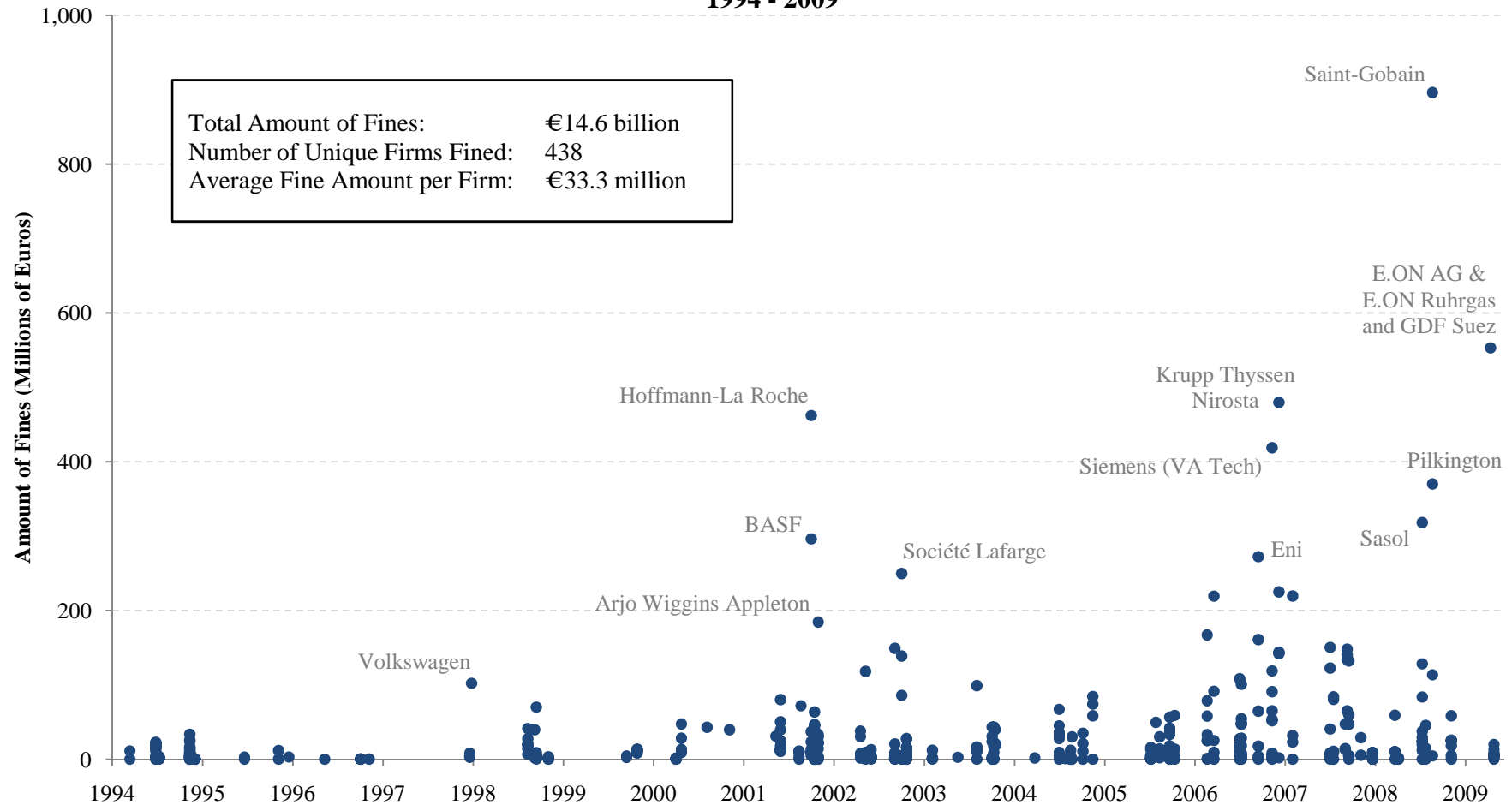
**Exhibit 1**  
**Total Amount of Fines and Number of Firms Fined by the European Commission**  
**Under Article 81 (Anti-Competitive Agreements)**  
**1994 - 2009**

**Note:**

[1] 2009 data end in July.

**Sources:**[A] European Commission Competition Policy - Antitrust Case Commission Decisions, available at <<http://ec.europa.eu/competition/antitrust/cases/index.html>>.[B] European Commission Competition Policy - Annual Reports, 1994-2007, available at <[http://ec.europa.eu/competition/annual\\_reports/](http://ec.europa.eu/competition/annual_reports/)>.[C] Press releases by the European Commission Competition Policy, available at <<http://europa.eu/rapid/searchAction.do>>.

**Exhibit 2**  
**Fines Imposed by the European Commission**  
**Under Article 81 (Anti-Competitive Agreements)**  
**1994 - 2009**

**Notes:**

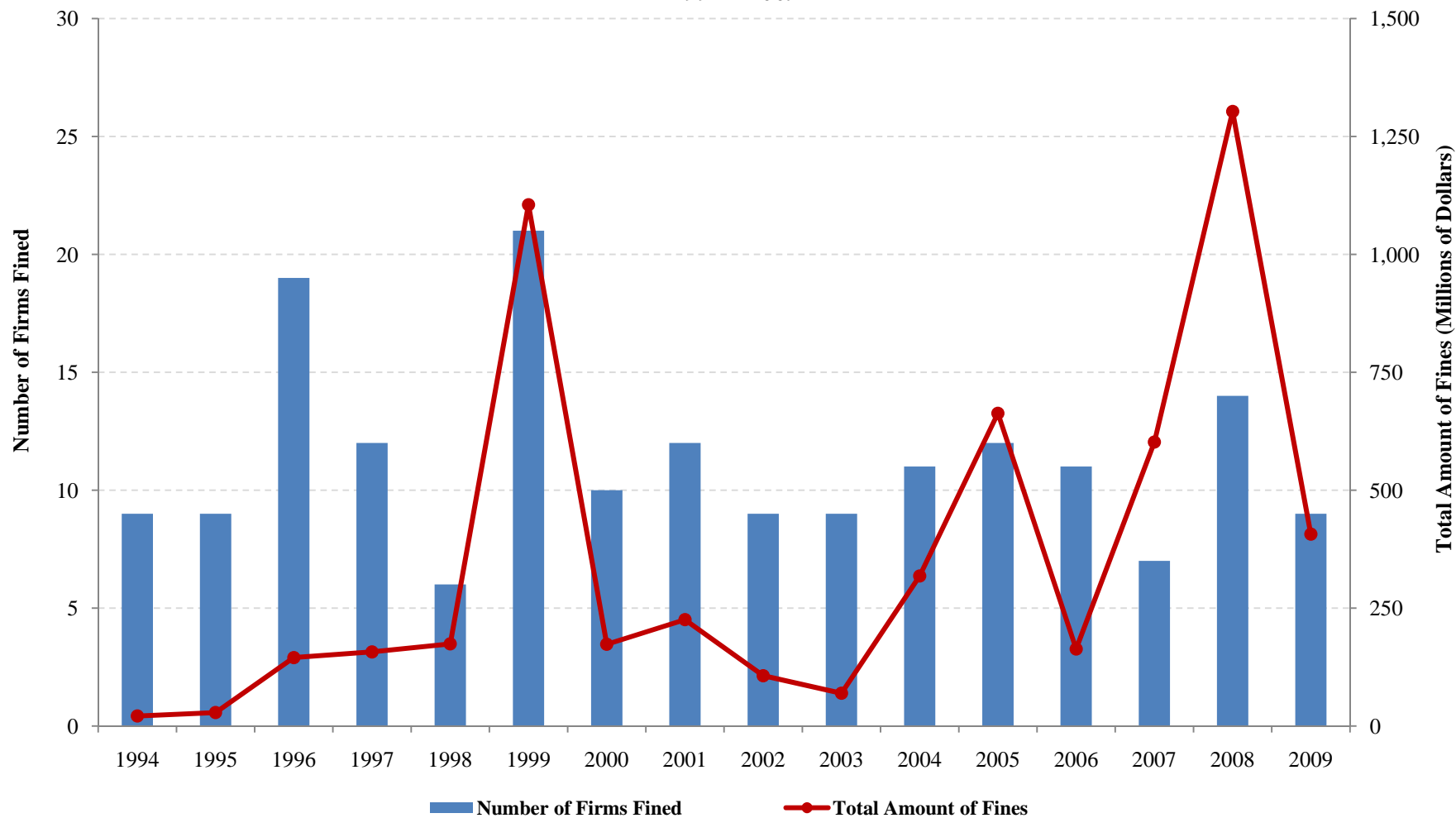
[1] 2009 data end in July.

[2] Fines depicted are at the firm level.

**Sources:**[A] European Commission Competition Policy - Antitrust Case Commission Decisions, available at <<http://ec.europa.eu/competition/antitrust/cases/index.html>>.[B] European Commission Competition Policy - Annual Reports, 1994-2007, available at <[http://ec.europa.eu/competition/annual\\_reports/](http://ec.europa.eu/competition/annual_reports/)>.[C] Press releases by the European Commission Competition Policy, available at <<http://europa.eu/rapid/searchAction.do>>.



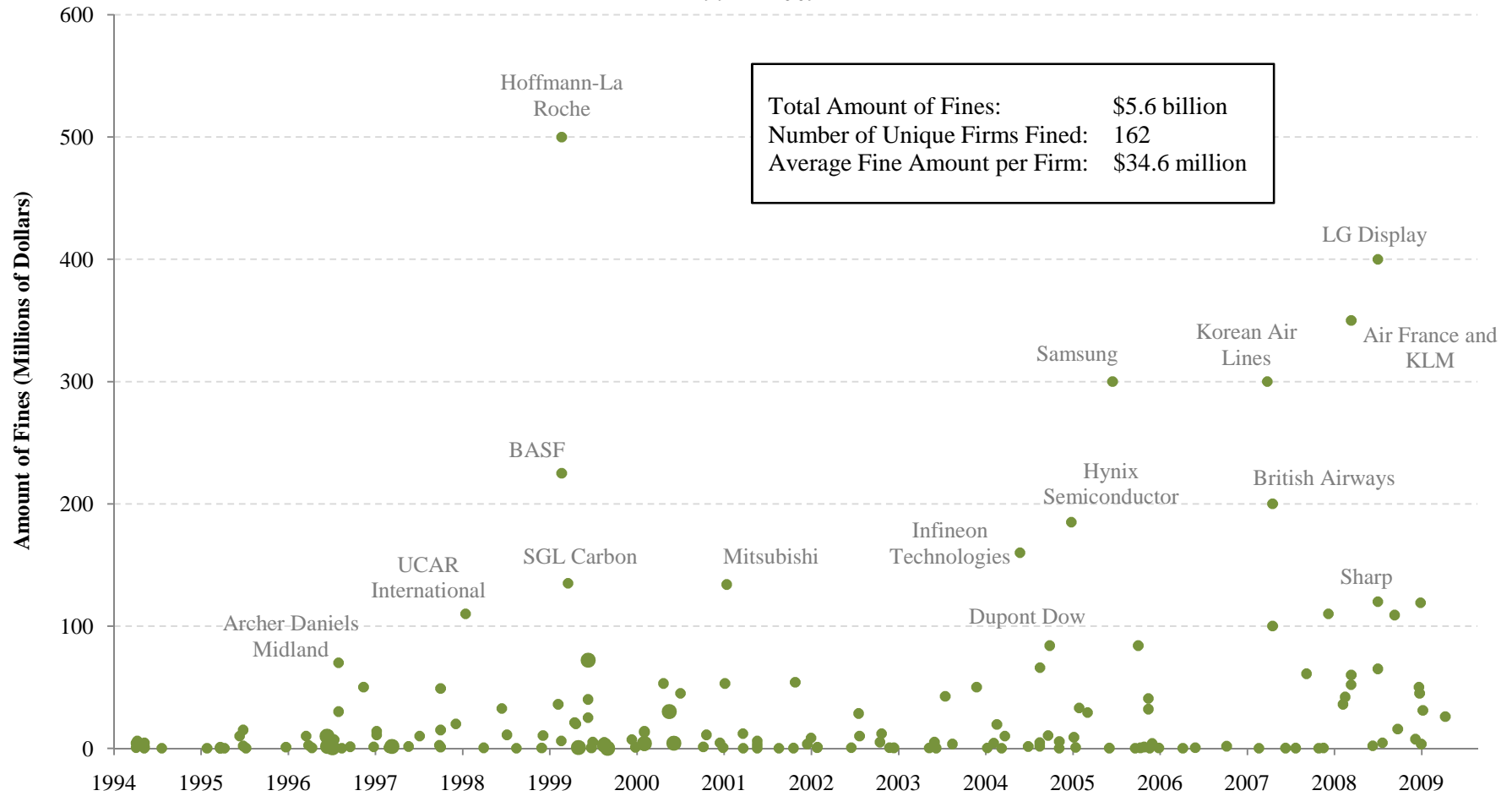
**Exhibit 3**  
**Total Amount of Fines and Number of Firms Fined by the Antitrust Division of the US DoJ Under**  
**Section 1 of the Sherman Act (Anti-Competitive Agreements)**  
**1994 - 2009**

**Note:**

[1] 2009 data end in August.

**Sources:**[A] US DoJ, Antitrust Division, "Sherman Act Violations Yielding a Corporate Fine of \$10 Million or More," as of May 22, 2009, available at <<http://www.usdoj.gov/atr/public/criminal/sherman10.htm>>.[B] US DoJ, Antitrust Division, "Annual Report FY 1999," available at <<http://www.usdoj.gov/atr/public/4523.htm>>.[C] DoJ Press Releases, Plea Agreements, Case Information, Indictment, and Briefs for Appellee, available at <<http://www.usdoj.gov/atr/cases.html>>.

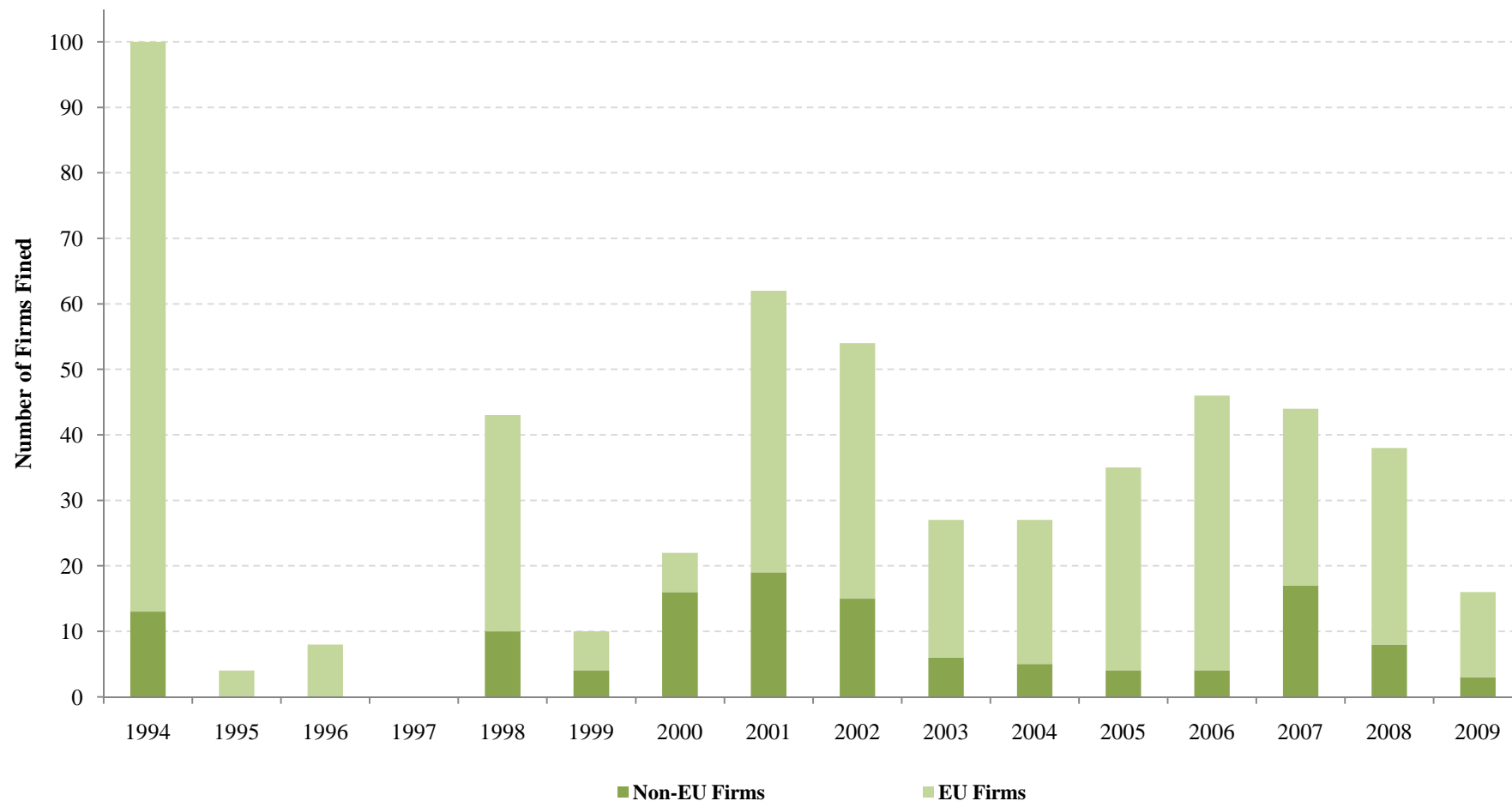
**Exhibit 4**  
**Fines Imposed by the Antitrust Division of the US DoJ Under**  
**Section 1 of the Sherman Act (Anti-Competitive Agreements)**  
**1994 - 2009**

**Note:**

[1] 2009 data end in August.

**Sources:**[A] US DoJ, Antitrust Division, "Sherman Act Violations Yielding a Corporate Fine of \$10 Million or More," as of May 22, 2009, available at <<http://www.usdoj.gov/atr/public/criminal/sherman10.htm>>.[B] US DoJ, Antitrust Division, "Annual Report FY 1999," available at <<http://www.usdoj.gov/atr/public/4523.htm>>.[C] DoJ Press Releases, Plea Agreements, Case Information, Indictment, and Briefs for Appellee, available at <<http://www.usdoj.gov/atr/cases.html>>.

**Exhibit 5**  
**Number of EU and Non-EU Firms Fined by the European Commission**  
**Under Article 81 (Anti-Competitive Agreements)**  
**1994 - 2009**

**Notes:**

[1] A firm was assigned a location of "Europe" if its parent company was located in one of the 27 countries belonging to the European Union as of 2009, as listed on the Europa website.

[2] 2009 data end in July.

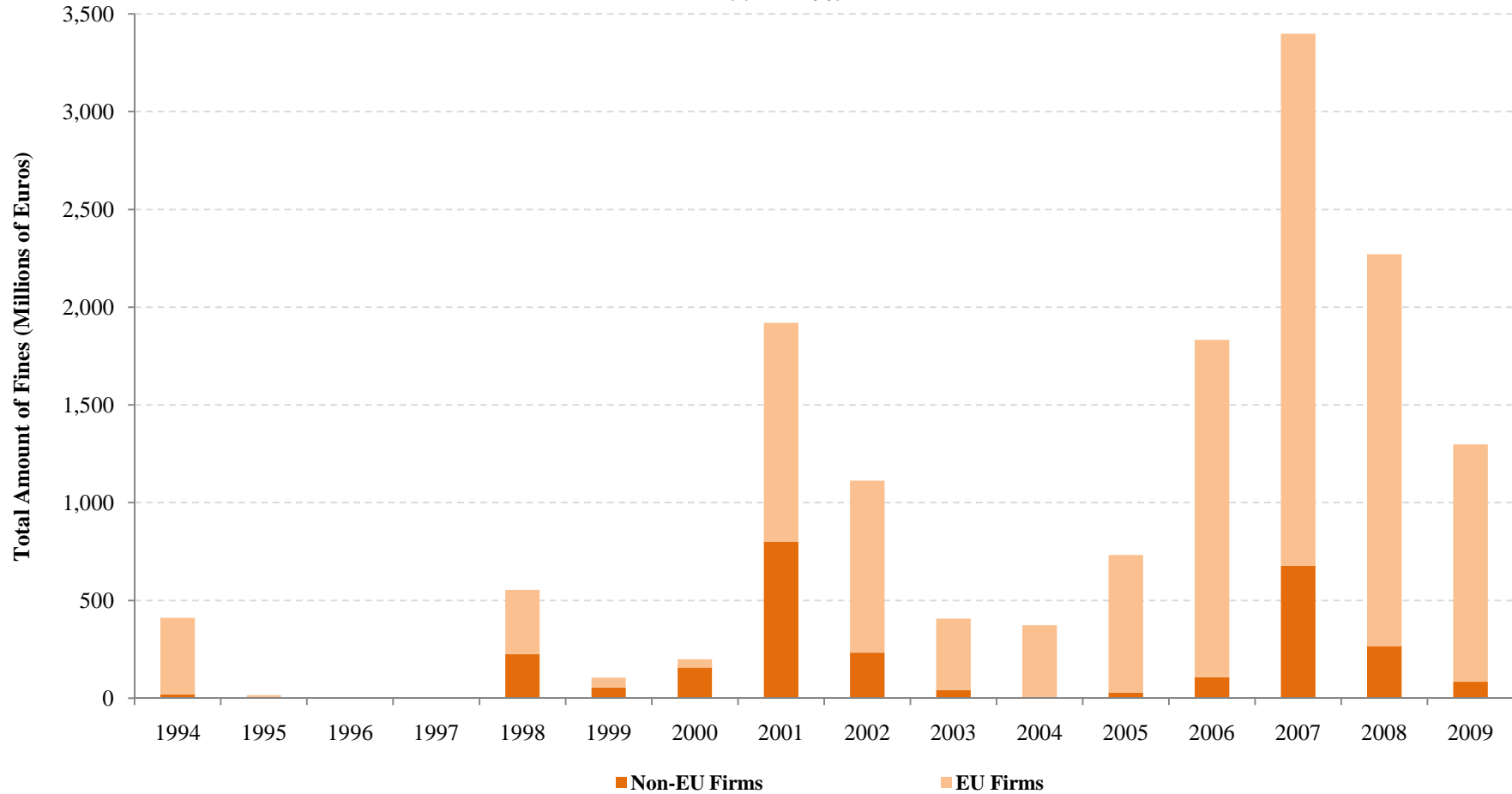
**Sources:**

[A] European Commission Competition Policy - Annual Reports, 1998-2007, available at <[http://ec.europa.eu/competition/annual\\_reports/](http://ec.europa.eu/competition/annual_reports/)>.

[B] European Commission Competition Policy - Antitrust Case Commission Decisions (1999 to date), available at <<http://ec.europa.eu/competition/antitrust/cases/index.html>>.

[C] Press releases by the European Commission Competition Policy, available at <<http://europa.eu/rapid/searchAction.do>>.

**Exhibit 6**  
**Total Amount of Fines Imposed on EU and Non-EU Firms by the European Commission**  
**Under Article 81 (Anti-Competitive Agreements)**  
**1994 - 2009**

**Notes:**

[1] A firm was assigned a location of "Europe" if its parent company was located in one of the 27 countries belonging to the European Union as of 2009, as listed on the Europa website.

[2] 2009 data end in July.

**Sources:**

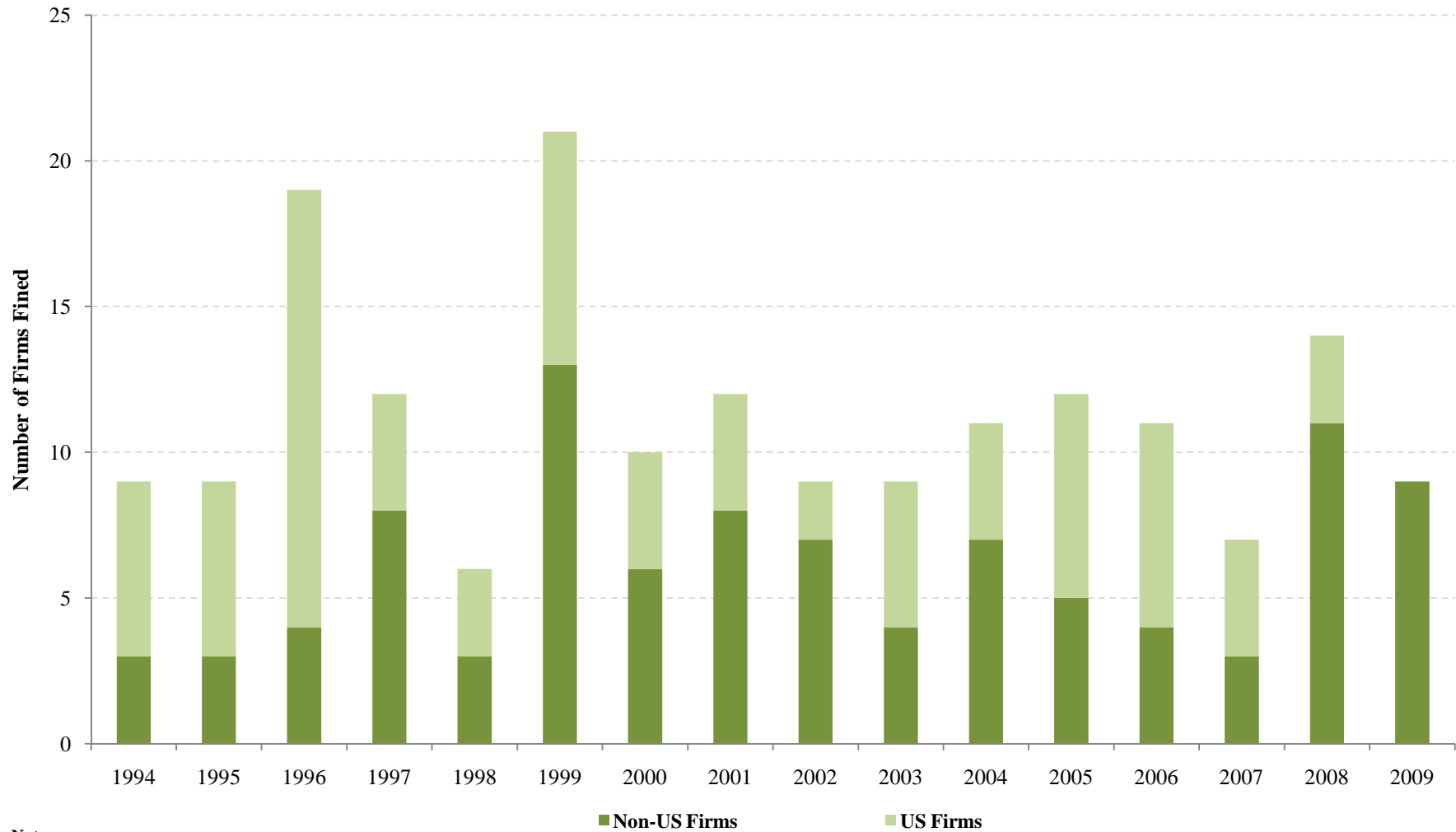
[A] European Commission Competition Policy - Annual Reports, 1998-2007, available at <[http://ec.europa.eu/competition/annual\\_reports/](http://ec.europa.eu/competition/annual_reports/)>.

[B] European Commission Competition Policy - Antitrust Case Commission Decisions (1999 to date), available at <<http://ec.europa.eu/competition/antitrust/cases/index.html>>.

[C] Press releases by the European Commission Competition Policy, available at <<http://europa.eu/rapid/searchAction.do>>.

[D] Europa website, "European Countries," available at <[http://europa.eu/abc/european\\_countries/index\\_en.htm](http://europa.eu/abc/european_countries/index_en.htm)>.

**Exhibit 7**  
**Number of US and Non-US Firms Fined by the Antitrust Division of the US DoJ**  
**Under Section 1 of the Sherman Act (Anti-Competitive Agreements)**  
**1994 - 2009**

**Note:**

[1] 2009 data end in August.

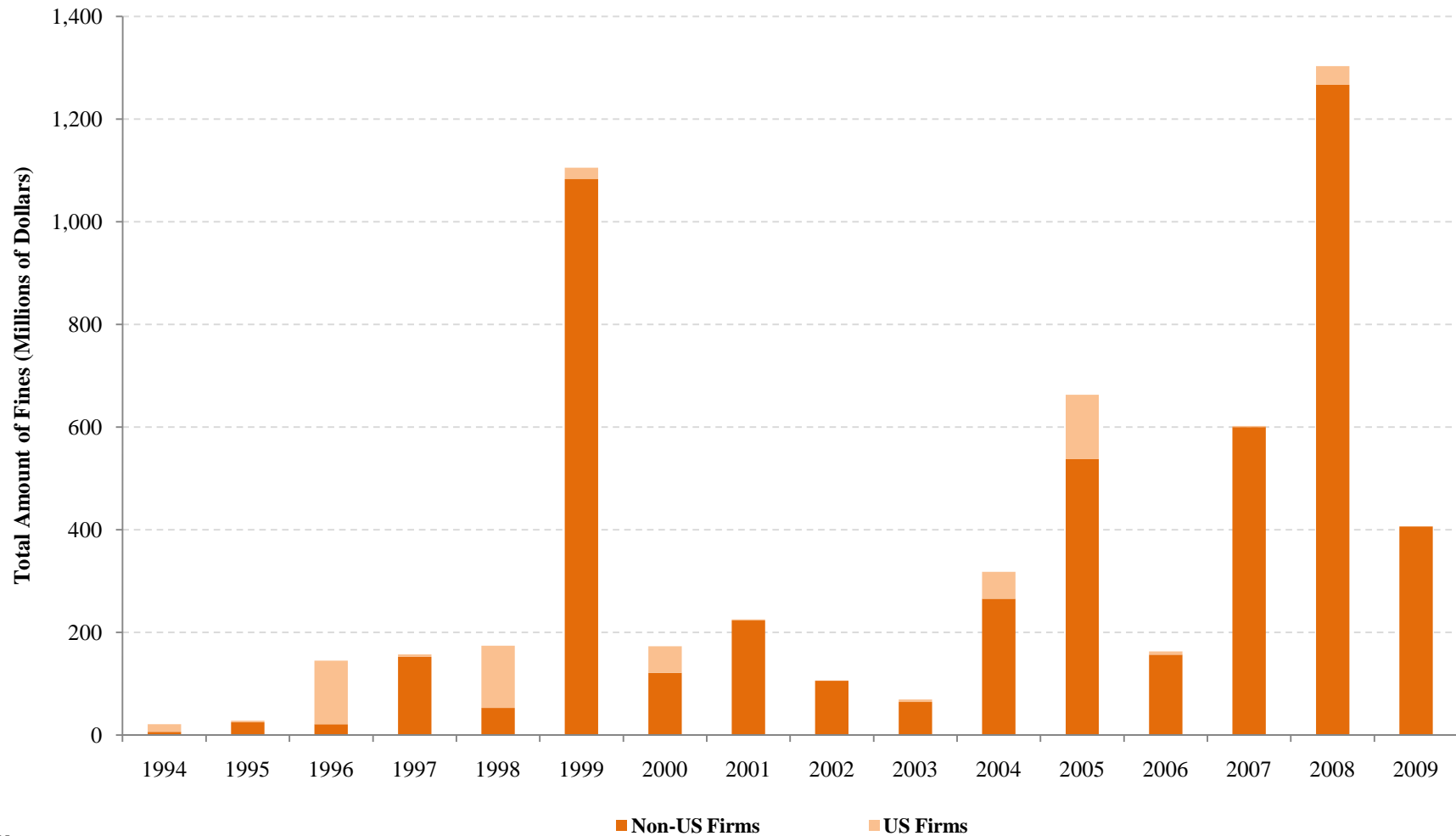
**Sources:**

[A] US DoJ, Antitrust Division, "Sherman Act Violations Yielding a Corporate Fine of \$10 Million or More," as of May 22, 2009, available at <<http://www.usdoj.gov/atr/public/criminal/sherman10.htm>>.

[B] US DoJ, Antitrust Division, "Annual Report FY 1999," available at <<http://www.usdoj.gov/atr/public/4523.htm>>.

[C] DoJ Press Releases, Plea Agreements, Case Information, Indictment, and Briefs for Appellee, available at <<http://www.usdoj.gov/atr/cases.html>>.

**Exhibit 8**  
**Total Amount of Fines Imposed on US and Non-US Firms by the US DoJ**  
**Under Section 1 of the Sherman Act (Anti-Competitive Agreements)**  
**1994 - 2009**

**Note:**

[1] 2009 data end in August.

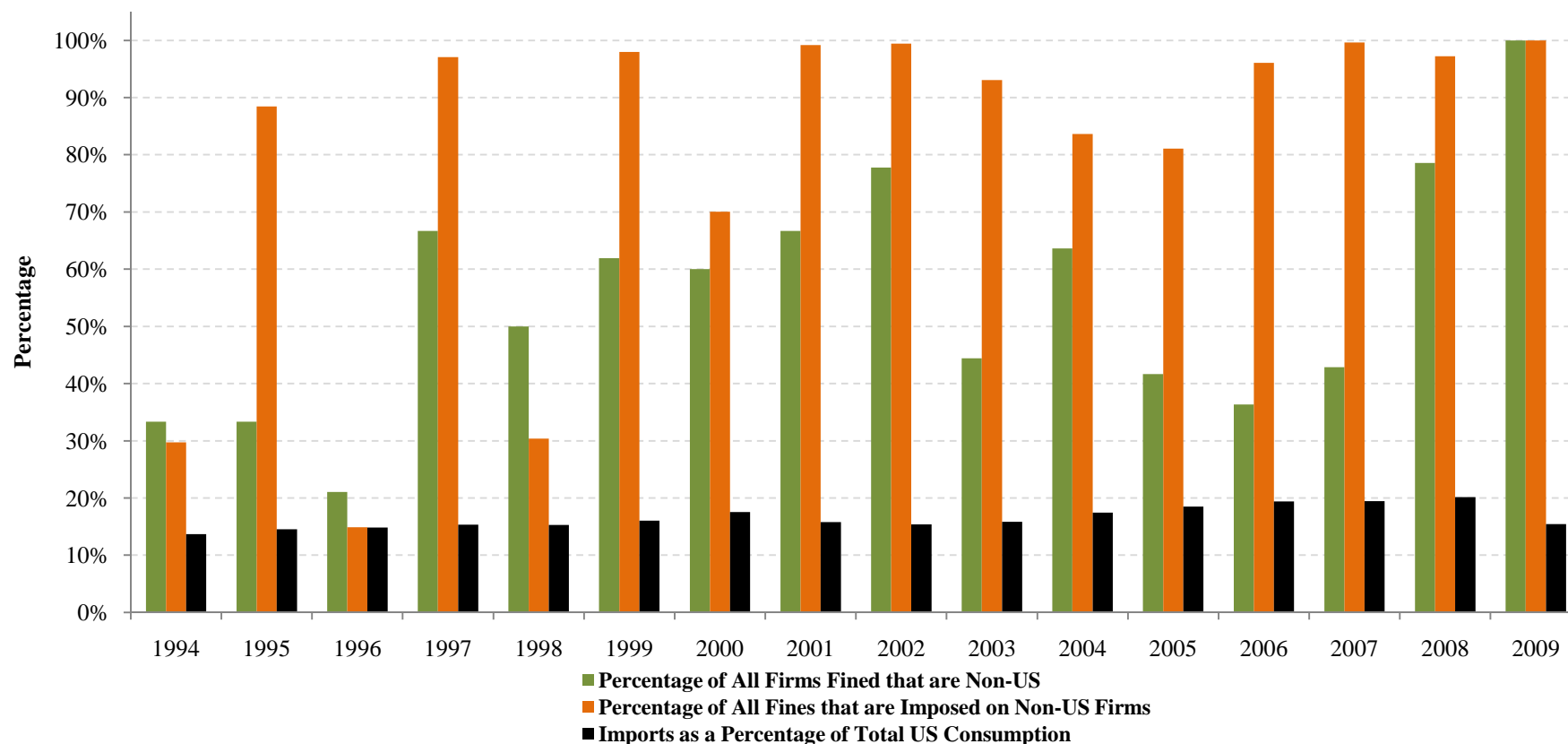
**Sources:**

[A] US DoJ, Antitrust Division, "Sherman Act Violations Yielding a Corporate Fine of \$10 Million or More," as of May 22, 2009, available at <<http://www.usdoj.gov/atr/public/criminal/sherman10.htm>>.

[B] US DoJ, Antitrust Division, "Annual Report FY 1999," available at <<http://www.usdoj.gov/atr/public/4523.htm>>.

[C] DoJ Press Releases, Plea Agreements, Case Information, Indictment, and Briefs for Appellee, available at <<http://www.usdoj.gov/atr/cases.html>>.

**Exhibit 9**  
**Domestic and Foreign Antitrust Targeting by the Antitrust Division of the US DoJ**  
**Compared to Imports as a Percentage of Total US Consumption**  
**1994 - 2009**

**Notes:**

[1] To calculate Imports as a Percentage of Total US Consumption, Imports were defined as total annual US imports in goods and services and Total Consumption was defined as the sum of personal and government consumption expenditures.

[2] 2009 data on the percentage of firms fined and fines imposed end in August.

**Sources:**

[A] US DoJ, Antitrust Division, "Sherman Act Violations Yielding a Corporate Fine of \$10 Million or More," as of May 22, 2009, available at <<http://www.usdoj.gov/atr/public/criminal/sherman10.htm>>.

[B] US DoJ, Antitrust Division, "Annual Report FY 1999".

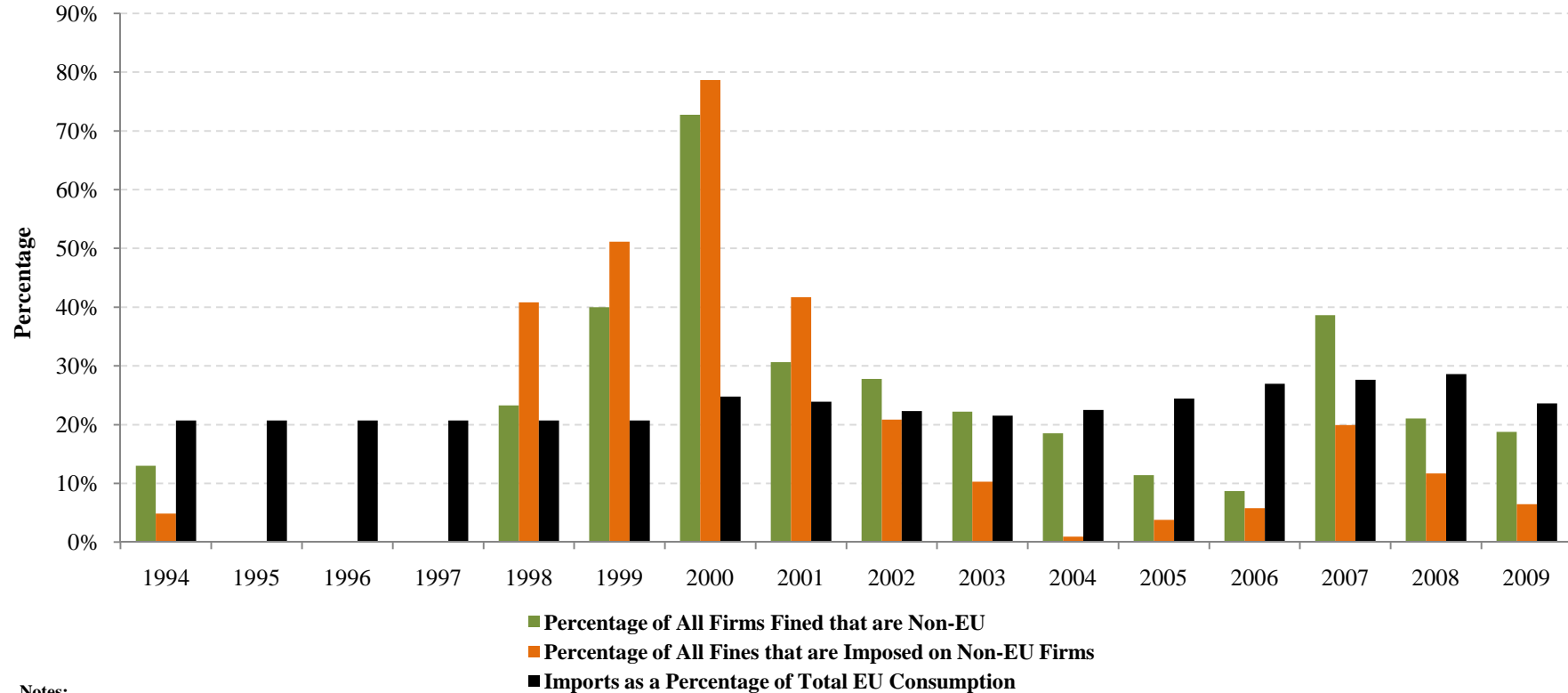
[C] DoJ Press Releases, Plea Agreements, Case Information, Indictment, and Briefs for Appellee, available at <<http://www.usdoj.gov/atr/cases.html>>.

[D] U.S. Department of Commerce, Bureau of Economic Analysis, International Economic Accounts, "Trade in Goods and Services," available at <<http://www.bea.gov/international/index.htm#header>>.

[E] US Department of Commerce, Bureau of Economic Analysis, National Accounts, "Gross Domestic Product," available at <<http://www.bea.gov/national/nipaweb/TableView.asp?SelectedTable=5&FirstYear=2008&LastYear=2009&Freq=Qtr>>.

[F] US Department of Commerce, Bureau of Economic Analysis, National Accounts, "Government Consumption Expenditures and Gross Investment," available at <<http://www.bea.gov/national/nipaweb/TableView.asp?SelectedTable=98&Freq=Qtr&FirstYear=2007&LastYear=2009>>.

**Exhibit 10**  
**Domestic and Foreign Antitrust Targeting by the European Commission (Under Article 81)**  
**Compared to Imports as a Percentage of Total EU Consumption**  
**1994 - 2009**

**Notes:**





- [1] Import/Consumption Data apply only to the Euro Area (only those 16 countries using the euro as their sole currency). Fines data apply to the 27 countries in the European Union, as listed by the Europa website.
- [2] Import/Consumption data from 2009 only reflect Q1-Q3. No import or consumption data are available prior to 1999 so we take 1999 values as a proxy for the years 1994-1998.
- [3] Imports as a percentage of consumption are calculated in accordance with the definitions of imports and consumption provided by the European System of Accounts 1995 manual.
- [4] Imports are defined as transactions in goods and services (purchases, barter, gifts or grants) from non-residents to residents, where "residents" are defined as units having a center of economic interest on the economic territory of the euro area - that is, when they engage for an extended period (one year or more) in economic activities on euro area territory. Imports do not include sales by foreign firms located within the euro area.
- [5] Consumption is defined as expenditure incurred by resident institutional units on goods or services that are used for the direct satisfaction of individual needs or wants or the collective needs of members of the community. This measure excludes social transfers and items considered intermediate consumption or gross capital formation.
- [6] 2009 data on the percentage of firms fined and fines imposed end in July.

**Sources:**





- [A] European Commission Competition Policy - Annual Reports, 1998-2007, available at <[http://ec.europa.eu/competition/annual\\_reports/](http://ec.europa.eu/competition/annual_reports/)>.
- [B] European Commission Competition Policy - Antitrust Case Commission Decisions (1999 to date), available at <<http://ec.europa.eu/competition/antitrust/cases/index.html>>.
- [C] Press releases by the European Commission Competition Policy, available at <<http://europa.eu/rapid/searchAction.do>>.
- [D] European Central Bank, Statistical Data Warehouse, "Imports of Goods and Services," available at <[http://sdw.ecb.europa.eu/quickview.do?SERIES\\_KEY=158.IEAQ.Q.I5.N.V.P7.Z.S2.A1.S.2.X.E.Z](http://sdw.ecb.europa.eu/quickview.do?SERIES_KEY=158.IEAQ.Q.I5.N.V.P7.Z.S2.A1.S.2.X.E.Z)>.
- [E] European Central Bank, Statistical Data Warehouse, "Final Consumption Expenditure," available at <[http://sdw.ecb.europa.eu/quickview.do?SERIES\\_KEY=158.IEAQ.Q.I5.N.V.P3.Z.S1.A1.S.1.X.E.Z](http://sdw.ecb.europa.eu/quickview.do?SERIES_KEY=158.IEAQ.Q.I5.N.V.P3.Z.S1.A1.S.1.X.E.Z)>.
- [G] Europa website, "European Countries," available at <[http://europa.eu/abc/european\\_countries/index\\_en.htm](http://europa.eu/abc/european_countries/index_en.htm)>.
- [H] European Commission, European System of Accounts 1995 Manual, available at <<http://circa.europa.eu/irc/dsis/nfaccount/info/data/esa95/en/esa95en.htm>>.



**Table 1**  
**Number of Firms Fined and Conditional Probability of Receiving a Fine**  
**by Jurisdiction Imposing the Fine and Location of Firm's Parent Company**  
**(Only US and EU Firms with Sales in Both the US and EU)**  
**1994 - 2009**

<i>Number of Firms Fined By Jurisdiction Imposing the Fine and Location of Firm's Parent Company</i>			<u>Location of Firm's Parent Company</u>	
<u>Jurisdiction Imposing the Fine</u>			US 	EU 
	US DoJ (Sherman §1) 		23 [A]	34 [D]
	European Commission (Article 81) 		25 [B]	190 [E]
	US DoJ and European Commission		5 [C]	19 [F]





<i>Conditional Probability of Receiving Fine</i>			<u>Location of Firm's Parent Company</u>	
			US 	EU 
	$\Pr(\text{Fined}^{\text{US DoJ}} \mid \text{Fined}^{\text{EU}}, \text{Location})$ 		20% [C]/[B]	10% [F]/[E]
	$\Pr(\text{Fined}^{\text{EU}} \mid \text{Fined}^{\text{US DoJ}}, \text{Location})$ 		22% [C]/[A]	56% [F]/[D]

**Notes:**

[1] A firm was assigned a location of "Europe" if its parent company was located in one of the 27 countries belonging to the European Union as of 2009, as listed on the Europa website.

[2] Any firm fined more than once within a jurisdiction was only counted once in that jurisdiction.





**Table 2**  
**Total, Average and Median Fines Imposed on Domestic versus Foreign Firms**  
**by the US DoJ (Sherman §1) and European Commission (Article 81)**  
**1994 - 2009**

<i>Total, Average and Median Fines Imposed by Jurisdiction and Location of Firm's Parent Company</i>				<u>Location</u> of Firm's Parent Company					
<u>Jurisdiction</u> Imposing the Fine	US DoJ (Sherman §1) (Millions of Dollars)		<i>Total</i> <i>Average</i> <i>Median</i>	US		EU		Rest of World	
				\$	571.0	10%	\$	1,925.6	34%
				\$	7.0		\$	44.8	
	European Commission (Article 81) (Millions of Euros)		<i>Total</i> <i>Average</i> <i>Median</i>	\$	0.5		\$	13.0	
				€	747.0	5%	€	11,936.7	82%
				€	25.8		€	29.0	
				€	13.6		€	5.0	
				€	1,935.4	13%	€	20.6	
				€	6.1		€	6.1	

**Note:**

[1] A firm was assigned a location of "Europe" if its parent company was located in one of the 27 countries belonging to the European Union as of 2009, as listed on the Europa website.

**Table 3**  
**Total, Average and Median Fines Imposed by**  
**the US DoJ (Sherman §1) and European Commission (Article 81)**  
**(Only US and EU Firms with Sales in Both the US and EU)**  
**1994 - 2009**

<i>Total, Average and Median Fines Imposed by Jurisdiction and Location of Firm's Parent Company</i>				<b><u>Location</u> of Firm's Parent Company</b>	
<b><u>Jurisdiction</u> Imposing the Fine</b>	<b>US DoJ (Sherman §1) (Millions of Dollars)</b>		<i>Total</i> <i>Average</i> <i>Median</i>	<b>US</b> 	<b>EU</b> 
	<b>European Commission (Article 81) (Millions of Euros)</b>		<i>Total</i> <i>Average</i> <i>Median</i>		

**Note:**

[1] A firm was assigned a location of "Europe" if its parent company was located in one of the 27 countries belonging to the European Union as of 2009, as listed on the Europa website.