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Assessing Bias in Patent Infringement Cases: A Review of International Trade Commission Decisions

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Executive Summary

The International Trade Commission (ITC) has gained importance in recent years because of its increasingly powerful role in adjudicating patent disputes. That little-known independent agency has the authority to bar importation of articles found to infringe a valid U.S. patent by issuing exclusion orders. The Commission is now potentially the patent tribunal of first instance for electronic products and other products manufactured overseas. This paper examines possible biases in ITC decision making in favor of patent holders from both a positive and a normative perspective and offers suggestions for improving the efficiency of the ITC process for adjudicating complaints based on patent infringement. I provide the most comprehensive economic analysis to date of cases that arise under Section 337 of the Tariff Act of 1930. In particular, this is the first paper to compare the ITC decision-making process in patent disputes with the district courts in a systematic way. After empirically demonstrating a likely bias in decision making at the ITC, the paper provides specific remedies that could improve the efficiency of the patent dispute process.

Assessing Bias in Patent Infringement Cases: A Review of International Trade Commission Decisions

Robert W. Hahn

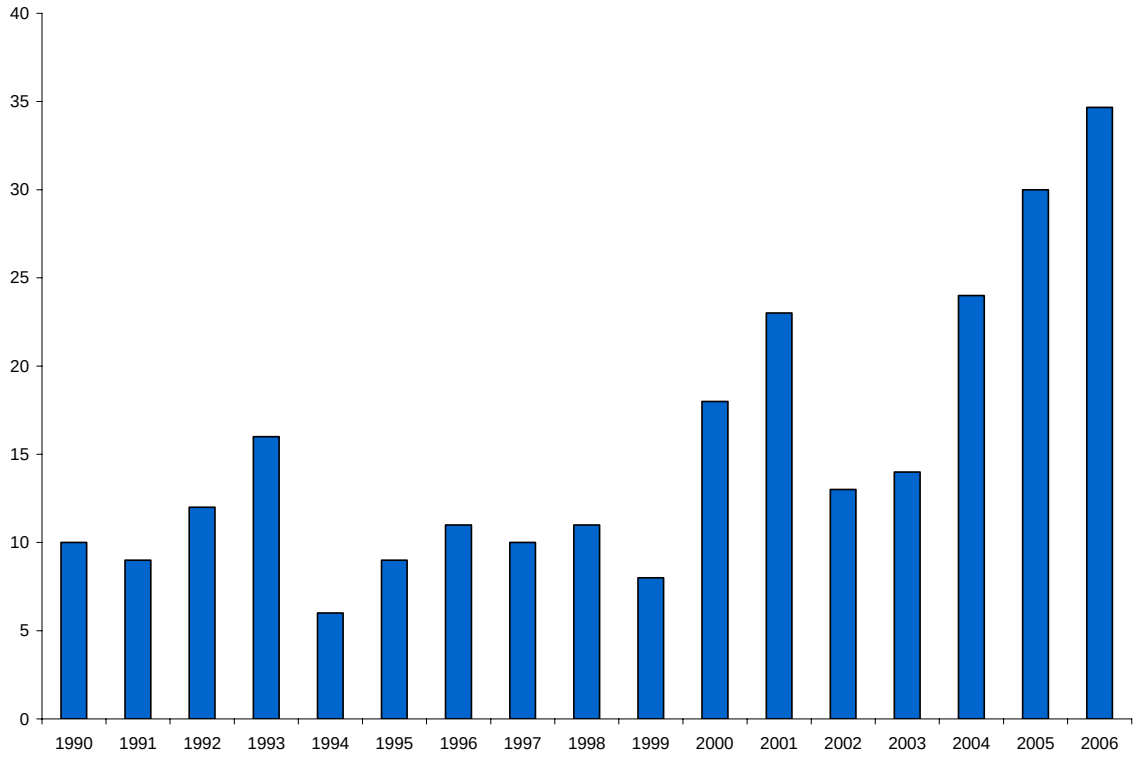
1. Introduction

The International Trade Commission (ITC)—one of the two venues in which a firm can enforce its U.S. patent rights—offers patent holders nearly automatic injunctive relief if it finds infringement. Yet an important new strand of literature demonstrates that awarding injunctive relief to patent holders, even when their patents are infringed, often is not consistent with the socially optimal result (see Lemley and Shapiro forthcoming). In particular, when the patent covers a small component of an end product or when the patent holder is a non-practicing entity ("NPE"), the award of—or even the threat of—injunctive relief can lead to settlements at inflated royalty rates that are passed on to end users in the form of higher prices. In these cases, monetary fines or reasonable royalty rates will typically be better than injunctions for improving economic efficiency.

This paper provides an empirical examination of ITC litigation of patent disputes. The issue is important because the ITC, which has jurisdiction to hear patent disputes under Section 337 of the Smoot-Hawley Tariff Act of 1930 ("Section 337"), has grown in popularity as a patent litigation venue in the recent past. In the 1990s, the average number of patent cases filed at the ITC was ten per year. Since 2000, the patent caseload at the ITC has doubled to on average 22 per year. Figure 1 shows the number of Section 337 cases alleging patent infringement by year.

Figure 1:

Number of Section 337 Cases Alleging Patent Infringement Initiated at the ITC, 1990-2006



Source: International Trade Commission website.
Note: The number of 2006 cases is projected to the end of the year based on data through September 2006 by multiplying September figures by 1.33.

The ITC has assumed an increasingly prominent role in adjudicating patent disputes in recent years, and the Commission is now an attractive venue for patent cases involving electronic products, since electronics are primarily manufactured overseas. Based on a review of the ITC's 337 database, other important industries that appear to be affected by the ITC's role in patent law include computers, semiconductors, and communications systems. Three "high technology" sectors of the economy that are highly dependent on intellectual property and have been implicated by recent ITC patent cases—(1) computer and electronic products, (2) electrical equipment, appliances, and components, and (3) telecommunications—contributed nearly half a trillion dollars to U.S. gross domestic product in 2005 (Gross Domestic Product By Industry Accounts 2006). Although the number of actual 337 cases at the ITC in any given year may be small relative to the number of patent cases in district courts, a single ITC case, such as the recent case brought by Broadcom against Qualcomm involving chips used in handsets for cellular

telephones (Case No. 337-TA-543), can have far-reaching impacts for an entire industry.[1] Moreover, if the ITC becomes a safe haven for patent trolls, then the number of cases could increase significantly, further adding to the social costs of the patent resolution process.

Some legal practitioners argue that the ITC has become (or always has been) a venue that favors patent holders for several reasons (see Schwartz 2002). First, jurisdiction under Section 337 derives from the mere act of importation, which eliminates wrangling over complex jurisdiction and venue issues that are common in district court proceedings. Second, ITC procedures sharply limit the time available for discovery, and the ITC therefore usually resolves cases more quickly than district courts (though the ITC's advantage in this regard can be exaggerated).[2] Third, it has been argued that, in cases involving process patents, certain defenses that are available in district court are not available at the ITC (Sweetland and McManus 2006; see also Kinik Co. v. United States (362 F.3d 1359 Fed. Cir. [2004])), though that argument may be hard to square with the terms of Section 337(c), which provides that a respondent in an ITC complaint proceeding may raise "[a]ll legal and equitable defenses." (19 U.S.C. § 1337(c)).

The perception that patent holders hold an advantage at the ITC is reinforced by the observation that patent holders are more likely to win their cases at the ITC than in district court. Between 1975 and 1988, the complainant prevailed—that is, achieved a favorable decision by the ITC or a settlement—in 75 percent of patent cases brought before the ITC, compared with a 40 to 45 percent win rate for patent plaintiffs in federal district courts (Aoki and Prusa 1993).[3] In more recent years, the ITC "has decided 54 percent of contested cases in favor of the patent holder. This compares positively with win rates for district court patent cases." (Sweetland and McManus 2006).

Furthermore, a patent holder at the ITC has substantial leverage over an alleged infringer when negotiating a settlement. The sole remedies available to the ITC are injunctive in nature—that is, exclusion orders that ban the importation of infringing products, and cease-and-desist

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[1] See, for example, Wall Street Journal 2006. (noting that "[d]epending on how the cases are ultimately decided, millions of cell phones could be barred from the U.S. market at a cost to the phone makers and network operators of billions of dollars.").

[2] Limiting discovery time systematically favors complainants, who are able to prepare their case and develop evidence before filing a complaint. A respondent surprised by a complaint will have little time to develop and prepare a defense.

[3] I use whole number percentages throughout the paper.

orders that bar the continued sale of imported articles.[4] In contrast, district courts do not have to issue an injunction to remedy infringement. They can impose monetary damages or establish a reasonable royalty or both. As described below, in the absence of alternative remedies, the ITC is extremely likely to issue injunctive relief following a finding of infringement. The virtual certainty that injunctive relief will be issued is a major source of potential bias favoring complainants.

A key objective of this paper is to determine whether the ITC is a "biased" venue for resolving patent disputes. I define a "biased" venue for resolving patent disputes as one in which the average outcome across all decisions in that venue does not equal the mean outcome of an efficient system. By contrast, in an unbiased venue, while any particular decision may be incorrect, the average across all decisions is equal to the mean outcome of an efficient system. To make matters concrete, assume that, conditional on a large set of cases, the average win rate for plaintiffs, however defined, in an efficient system is 20 percent. If the average win rate for plaintiffs in a given venue is 40 percent, then one would conclude that the venue is biased in favor of plaintiffs.

To determine whether a particular venue is biased, one needs to compare it against a benchmark. If one chooses an inappropriate benchmark, the comparison could lead to meaningless or misleading results. Here, I choose to use outcomes in district courts as the benchmark against which to compare ITC decision-making on the basis that district court decisions in patent cases are likely to be less biased than those at the ITC as a matter of theory.

In addition to the three institutional advantages the ITC affords plaintiffs described above, there is a theoretical basis for believing that the ITC may be biased in its decision making—namely, the ITC was designed to protect domestic manufacturers (see Anderson 1993).[5] As an independent federal agency, the ITC is exposed to political pressure from congressmen that

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[4] See 19 U.S.C. § 1337(d) (exclusion orders); id. § 1337(f) (cease and desist orders). The ITC can issue two types of exclusion orders. The first, known as a "limited" exclusion order, authorizes the ITC to block importation by a specific person who has been shown to have violated Section 337. See id. § 1337(d)(1). The second, known as a "general" exclusion order, authorizes the ITC to bar importation of a class of articles, but only when "necessary to prevent circumvention of an exclusion order limited to products of named persons" or "there is a pattern of violation of this section and it is difficult to identify the source of infringing products." Id. § 1337(d)(2). In practice, the ITC sometimes uses limited exclusion orders to bar importation of a class of products. Even though the statute refers to "persons" who violate Section 337, the agency treats the remedy as "in rem"—against the products.

[5] "[T]he ITC differs from other agencies in that its statute directs it to focus solely on the effects on the competing domestic industry, rather than balancing the effects on consumers and producers as other agencies are directed to do."

control the agency's budget.[6] Because congressmen care about political costs and benefits rather than economic costs and benefits (see Peltzman 1976; Stigler 1971), one would expect that congressional influence on the ITC would favor domestic firms seeking to enforce their patents against foreign rivals, as domestic firms are better able to provide political benefits than foreign firms. In fact, prior empirical research focusing on the ITC's role in imposing antidumping duties suggests that the ITC is influenced by political factors.[7] Likewise, the win rate for plaintiffs at the ITC is highest when a domestic plaintiff is suing a foreign defendant, and the loss rate at the ITC for plaintiffs is highest when a foreign plaintiff is suing a domestic defendant, suggesting favoritism toward domestic litigants.[8]

By contrast, district courts are not exposed to the same sort of direct political pressures on a given matter. Although district court judges are appointed by presidents and confirmed by the Senate, they have life-time tenure and are not beholden to individual politicians after their appointment. It is, of course, possible that district courts are still affected by preferences of juries or interest groups in a number of ways. For example, court decisions may be affected by the confirmation process itself, by their insulation from the politics that allows judges to pursue other agendas, or by asymmetries in litigation power between parties (see Elhauge 1991 arguing that the litigation process is not necessarily less susceptible to interest group pressures than the political process). Incompetence on behalf of district court judges with respect to patent expertise could also affect outcomes. One would not, however, expect these factors to lead to district court being systematically biased in favor of plaintiffs over defendants in patent cases or vice-versa,

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[6] Liebman (2001) notes that previous research suggests that congressional influence "stems . . . from its control over the agency's budget." Congressional influence might also stem from its role in appointing commissioners, but prior empirical work shows that this is a less important factor than congressional control of the budget.

[7] See, for example, Baldwin and Steagall (1994) finding that employment levels affect ITC decision-making and suggesting this indicates political bias; DeVault (1993) finding that the size of domestic industry has a significant effect on ITC decisions; Finger, Hall and Nelson (1982) finding that international political considerations do not influence ITC decisions, but that domestic ones—such as an industry's size—do; Hasen and Prusa (1997) finding that House trade committee members influence ITC decision-making and that PAC contributions influence outcomes; Herander and Schwartz (1984) using the number of firms in an industry as a proxy for lobbying strength and finding a strong correlation between this variable and ITC outcomes; Liebman (2001, p. 24) finding that Senate Trade subcommittee members "exert pressure on ITC commissioners to protect industries in their home states," while finding that House Trade subcommittee members do not; Moore (1992, pp. 449, 460, 465) finding that the Senate Subcommittee on trade has a significant influence on ITC decisions. But see Anderson (1993 p. 928) finding political variables to not be significant determinants of ITC decision-making.

[8] I base this conclusion on my own analysis of the database of all ITC cases. I find that plaintiffs win in 26 percent of domestic-versus-foreign cases, while winning in only 21 percent of domestic-versus-domestic cases, 15 percent of foreign-versus-foreign cases, and 0 percent of foreign-versus-domestic cases. (See part 4.1.1, *infra*).

unlike with the type of bias at the ITC. Thus, as a starting point, it is reasonable to use outcomes at district courts as a benchmark for comparison with ITC outcomes. After finding what appears to be a bias in favor of complainants at the ITC vis-à-vis the district courts based on a simple difference in win rates at the two patent venues, I subject the hypothesis of a pro-complainant bias at the ITC to further tests, including tests of selection bias. These additional tests support my initial finding of bias in favor of complainants.

The paper is organized as follows. Part 2 reviews the empirical literature examining the Section 337 process and the theoretical literature on optimal patent protection. One theme in the empirical literature is that ITC cases are different from cases brought to the district courts, which creates complications when comparing outcomes in the two venues. This problem can be characterized as one of "selection bias"—that is, it is possible that different types of cases are brought to the ITC than are brought to a district court—and I revisit this selection bias issue in a later section. I then summarize the economic theory of hold-up and identify two conditions under which injunctive relief for patent violations may not be consistent with the public interest. Specifically, injunctive relief may be inefficient (1) when the product that would be affected contains multiple components, of which only one is the subject of the patent suit, or (2) when the patentee is an NPE that asserts its patent after the accused infringer has sunk substantial costs into design, development, and commercialization of the accused product.

In Part 3, I assess three purported benefits of Section 337 investigations: protectionism, speed in resolving patent disputes, and supplementing the district court's jurisdiction. Of the three purported benefits, I conclude that in practice only the third benefit would tend to justify maintaining an ITC remedy distinct from the remedies available in district courts.

In Part 4, I present new results on biases in Section 337 investigations in favor of complainants using the most comprehensive economic analysis to date of cases that arise under Section 337. I find evidence that the ITC favors patent holders vis-à-vis district courts by a wide margin. Patent holders are more likely to obtain a finding of infringement at the ITC than in district court. Of course, benchmarking against the district court could be problematic if the district court were itself biased, which could undermine the hypothesis that the ITC is biased in favor of complainants depending on the direction of the bias at the district court and the relative strength of the bias at the two patent venues. In addition, the simple difference in win rates across the two patent venues could be the result of selection issues. To control for this possibility, I perform two

analyses. First, I demonstrate that ITC decisions in favor of patent holders are much more likely to be reversed as erroneous than district court judgments. This finding supports the initial inference that the ITC is biased in favor of complainants implied by the difference in win rates. Second, I identified 32 parallel patent cases that were instituted in both district court and in the ITC. I find that an ITC decision in favor of the *complainant* resulted in the same outcome in a parallel case in a district court 55 percent of the time, whereas an ITC decision in favor of the *respondent* resulted in the same outcome in a parallel case in a district court 64 percent of the time. When the ITC rules in favor a plaintiff, the likelihood that the district court agrees with the ITC's decision is not much better than chance. This suggests that the ITC may deviate from the district court's standards when it rules in favor of a plaintiff. When two additional cases that resulted in settlements at the ITC, but rulings in favor of respondents at the district court are considered reversals of ITC decisions in favor of complainants, the survival rate for such pro-complainant decisions falls from 55 percent to 46 percent (six cases out of thirteen cases), further increasing the disparity in survival rates between ITC decisions in favor of complainants (46 percent) and ITC decisions in favor of respondents (64 percent). This finding also supports the initial inference that the ITC is biased in favor of complainants implied by the differences in win rates.

I also find that the ITC is far more likely to impose injunctive relief as a remedy for infringement than are district courts. When it finds infringement, the ITC imposes injunctive relief (that is, an order barring importation and/or a cease-and-desist order) roughly 96 percent of the time. By contrast, after a finding of infringement, the district court grants injunctive relief only 20 percent of the time. This threat of nearly automatic injunctive relief at the ITC could result in inefficient outcomes for consumers, particularly by inducing "patent trolls" to bring cases to the ITC (as opposed to a district court) in hopes of extracting an inflated settlement from the respondent.

In Part 5, I suggest possible reforms to the ITC role in patent enforcement that would be more consistent with the goal of social welfare maximization. Such reforms should minimize (1) the social costs associated with the ITC's granting injunctive relief when such relief is not consistent with the public interest, and (2) the administrative costs associated with implementing and enforcing remedies. A good way to do this is to remove jurisdiction from the ITC over patent matters except for those that district courts cannot hear for lack of personal jurisdiction. If

legislators do not cut back on the ITC's jurisdiction, the ITC could reduce the social costs of ITC litigation by providing injunctive relief—that is, issuing an exclusion order—only in those circumstances where such relief would be available in district court under the Supreme Court's *eBay* test.

2. Related Literature

2.1 Empirical evidence on Section 337 investigations

There are only a handful of economic studies that address ITC issues.[9] Three basic findings arise from the empirical literature: (1) patents litigated at the ITC may tend to be more valuable than patents generally, (2) complaining firms at the ITC are larger, have more product lines, have spent more on R&D and advertising, and are more profitable than their peer firms, and (3) a Section 337 ruling in favor of a complainant appears to have an overall negative effect on R&D spending, but a Section 337 ruling against a complainant is likely to have a more neutral effect.

Co (2004) constructed a matched sample by randomly pairing for each patent in her ITC sample a patent from the NBER patent database[10] with the same technology class and application year. Co examines a database of 65 cases from 1995 to 2000 involving 109 patents. She finds that patents litigated under Section 337 belonging to the 1995-97 cohort are cited close to five times more than all other patents belonging to this cohort. In addition, she finds that patents litigated under Section 337 belonging to the 1995-97 cohort are cited more frequently (and hence are presumably more valuable) than all patents belonging to a "matched sample" from the NBER patent database. Because the NBER database contains patents that are not litigated, however, Co's result might simply reflect the fact that litigated patents tend to be more valuable than non-litigated ones. Co also compares her sample of patents litigated under Section 337 sample to the value calculated by a prior study for patents that were litigated in federal district court and found that patents litigated under Section 337 were more valuable. This comparison is complicated, however, by the fact that the two studies used samples of patents that came from different periods.

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[9] By contrast, there are many legal studies on the Section 337 process including Clark (1989); Glick (1980); Kopp (1991); LaRue (1974); Martin (1995); Plaine, Roll and Whitener (1987); Spangler (1991); Zeitler (1989).

[10] The NBER database contains information on all patents, including both patents that are litigated and patents that are not litigated. For a detailed description of the database, see Bronwyn (2001).

Mutti and Yeung (1996) compiled a database of all Section 337 cases from 1977 to 1990, a total of 262 cases. Financial data on publicly traded firms were found on 92 cases. They find that complaining firms at the ITC are (1) larger and have more product lines than peer firms in their industry, (2) have spent more on R&D and advertising than their peers, and (3) are slightly more profitable than their peers. They find that a favorable ruling for a complainant in an R&D-intensive industry has no positive effect on R&D of the complainant, but an adverse ruling for a complainant in an R&D-intensive industry has a large negative effect on its R&D.

The focus of Mutti and Yeung's 1997 follow-up paper is on how different firms within the affected industry respond to a Section 337 action. They find that a Section 337 ruling in favor of a complainant appears to induce other firms within the industry that have the most R&D spending to cut back that R&D spending. They posit that this reflects the difficulty of continued innovation in the face of a potentially blocking patent. They find weaker evidence that a Section 337 ruling against a complainant invigorates a patent race among other firms, concluding that the ITC process may promote collusion among domestic firms (Mutti and Yeung 1997).[11]

In conjunction, Mutti and Yeung's two studies suggest that Type II errors (ruling for a complainant in a Section 337 proceeding when an unfavorable ruling is warranted) are more problematic than Type I errors (ruling against a complainant in a Section 337 proceeding when a favorable ruling is warranted). The 1996 study shows that an adverse ruling against a complainant has a negative effect on that firm's investment. The 1997 study shows that an adverse ruling against a complainant has a positive effect on competitive firms. Thus, the net social costs of a Type I error would be small as these two effects would cancel out. By contrast, the 1996 study shows that there is no positive effect on a patent holder's investment if it is granted an injunction, and the 1997 study shows there is a large negative effect on other firms' investment if the patent holder is given an injunction. Thus, net social costs of a Type II error would be large because the small reduction in investment by the patent holder is swamped by the decline in investment by competing firms.

[11]"This reduced intensity of R&D efforts raises more general questions over the justification for Section 337 from the perspective of national and world welfare. Does Section 337 promote new innovation or does it provide an opportunity to keep foreign competition at bay and to promote domestic collusion?".

2.2 Are there any circumstances in which injunctive relief should not automatically follow a finding of infringement?

I identify conditions under which permanent injunctive relief against patent infringers may not be consistent with the public interest. This section investigates the narrow question of whether injunctive relief is always appropriate as a remedy for infringement.

Strong patent enforcement, including the use of injunctive relief, can promote the public interest, but not always.[12] Lemley and Shapiro (forthcoming) use bargaining theory to show that the mere threat of obtaining a permanent injunction can greatly enhance a patent holder's negotiating power and can lead to royalty rates that exceed the value of the patented technology and the strength of the patent. In particular, they demonstrate that the negotiated royalty rate for a single patent tends to be greatly elevated above a reasonable benchmark level if the value of the patented feature is small relative to the total value associated with the product. The benchmark level for reasonable royalties is meant to reflect the royalty rate that would be negotiated prior to any infringement if the patent were known to be valid.[13] The authors demonstrate that the hold-up problems caused by the threat of injunctions are reduced if courts regularly stay injunctions to give defendants time to redesign their products to avoid infringement if possible.

Lemley and Shapiro argue that permanent injunctions are appropriate if the patentee (1) and the alleged infringer both practice the patent and are thus in competition, (2) does not sell the patented product, but sells a different product in the same relevant market, (3) licenses the patent to a firm that competes in the market; or (4) is engaged in research and development in preparation to compete. In addition, they argue that injunctive relief is warranted if the defendant

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[12] The literature recognizes that, if patent holders lack confidence that their property rights will be firmly enforced, their incentives to innovate will be reduced. Without sufficient protection against infringing patents, U.S. firms would not invest at socially optimal levels in innovative activities. See, for example, Hall and Ziedonis (2001) finding empirical support for the positive effects of stronger patents in the U.S. semiconductor industry; Jaffe and Lerner (2001) finding that the intellectual property rights policy changes had a substantial, positive effect on lab patenting; Park and Ginarte (1997) finding that intellectual property protection is a significant determinant of physical and R&D capital accumulation, even after controlling for market freedom.

[13] The benchmark royalty rate is written as the product of the patent strength, the bargaining power of the patent holder, and the value per unit of the patented feature to the downstream firm in comparison with the next best alternative technology.

copies the idea from the patentee, even if the patentee is not participating in the market and has no plans to do so.

Lemley and Shapiro also identify two conditions under which a permanent injunction is not appropriate: (1) when the product that would be enjoined contains multiple components, of which only one is the subject of the patent suit, and (2) when the patentee is not in the market and the defendant developed the technology independently rather than copying it from the plaintiff.

In its recent *eBay* decision (see eBay, Inc. v. MercExchange L.L.C. (126 S. Ct. 1837 [2006]), the Supreme Court ruled that patent holders seeking permanent injunctions against patent infringers are required to satisfy the traditional four-factor test to obtain an injunction. A plaintiff must show that (1) it suffered an irreparable injury, (2) remedies at law are inadequate to compensate for that injury, (3) an injunction is warranted in light of the balance of hardships between the plaintiff and the defendant, and (4) the public interest would not be disserved by a permanent injunction. The Supreme Court gave little guidance as to what specific conditions would favor injunctive relief, but four Justices did give an example of where injunctive relief would *not* be consistent with the public interest, stating that

> when the patented invention is but a small component of the product the companies seek to produce and the threat of an injunction is employed simply for undue leverage in negotiations, legal damages may well be sufficient to compensate for the infringement and an injunction may not serve the public interest. (*eBay*, 126 S. Ct. at 1842 (Kennedy, J., joined by Stevens, Souter, and Breyer, JJ., concurring)).

According to FTC Chairman Deborah Majoras, the *eBay* decision conflicts with years of prevailing practice by lower courts, which have granted such injunctions almost automatically (see Majoras 2006). Majoras explains that, in deciding whether the plaintiff suffered an irreparable injury and whether remedies at law are adequate to compensate for that injury, it is important to determine whether the patentee uses its patent exclusively (by practicing the patent itself, producing a competing product, or licensing the patent exclusively) or non-exclusively (by licensing the patent to various entities). She points out that the grant of an injunction may allow the patent owner to appropriate more than the full value of its invention, as when a patentee "that sells no products [that is, is a non-practicing entity] and licenses non-exclusively asserts its patent after the accused infringer has sunk substantial costs into design, development, and

commercialization of the accused product." (Majoras 2006, p. 6). Majoras also explains that hold up also is likely to occur in industries with patent thickets—that is, industries involving complex products covered by hundreds or even thousands of patents (Majoras 2006, pp. 7-8).

3. Purported Benefits of Section 337 Investigations

In 1987, Congress amended the Smoot-Hawley Tariff Act of 1930 to "strengthen the effectiveness of Section 337 in addressing the growing problems being faced by U.S. companies from the importation of articles that infringe U.S. intellectual property rights." (S. Rep. No. 100-71, at 128 (1987)). As the committee report suggests, the core purpose of Section 337 is to provide U.S. companies with a remedy against foreign companies that fail to respect patent rights and other U.S. intellectual property. Despite its myriad (and often negative) connotations, I use the phrase "protectionism" to capture this original intended benefit of Section 337. I evaluate the merits of the protectionism rationale. Next, I evaluate the merits of two other purported benefits of the Section 337 process: greater speed in resolving patent disputes and filling gaps in federal district court jurisdiction.

3.1 Protectionism

The ITC's historic mission was to protect U.S. industry from "unfair" competition and imports. The ITC obtained the authority to review patent infringement claims as a result of the protectionist Smoot-Hawley Tariff Act of 1930. Whatever one thinks of the merits of protectionism, ITC complaints are not confined to cases involving protection of domestic industries from unfair foreign imports. Less than two-thirds of the cases that the ITC hears today involve a domestic complainant and a foreign respondent, down from over 80 percent in the 1980s. The only jurisdictional pre-requisites for an ITC complaint are that the defendant import articles (even if the defendant is a domestic company) and that the complaint satisfy the "domestic industry" requirement of Section 337(a)(2) – a requirement that a foreign firm can satisfy based on its own activities in the United States, as well as the activities of domestic subsidiaries and licensees. As a result, the ITC hears many cases by domestic firms against other domestic firms: for example, Broadcom, a U.S. company that makes communications related technology, has pursued a complaint in the ITC against Qualcomm, another U.S. company that is

a world leader in wireless communications technology. The ITC also hears many complaints by foreign firms against other foreign firms. For example, in 2001, four cases were brought by foreign companies against other foreign companies: (1) Funai Electric v. Orion Electric, both of Japan, (2) Yamaha (Japan) v. Bombadier (Canada), (3) Rohm v. Nichia, both of Japan, and (4) Berry Finance N.V. (Belgium) v. Meister-Leisten Schulte GmbH (Germany). There were nine foreign-versus-foreign cases initiated in 2005. In still other cases, foreign firms may bring complaints against domestic companies. For example, Creative Laboratories, a Singaporean company, brought a complaint against Apple Computer, a U.S. company, seeking to bar importation of the iPod.

To examine this systematically, I categorized each case in the ITC database according to the nationality of the complainant and respondent (see International Trade Commission website). I found a decrease in the number of Section 337 cases involving a domestic complainant and foreign respondent ("domestic-versus-foreign cases").[14] Domestic-versus-foreign cases accounted for 82 percent (156 of 190) of all patent cases brought to the ITC in the 1980s that I could classify. In the 1990s, this share declined to 73 percent (74 of 102) of all patent cases brought to the ITC that I could classify. From 2000 through 2006, domestic-versus-foreign cases accounted for just 66 percent (97 of 148) of all patent cases brought to the ITC that I could classify. This trend away from the traditional paradigm of domestic-versus-foreign suggests that

[14] Companies were classified as either foreign or domestic based on the location of their headquarters or country of incorporation. I relied primarily on the classification system used in the ITC's own listing, which categorized most companies by state or country. Companies with headquarters in the United States were classified as domestic, except subsidiaries of foreign-based companies. A company was considered a subsidiary if at least 50 percent of its equity was owned by a foreign company, but publicly traded companies were not considered subsidiaries. If an individual was listed as the complainant or respondent, his or her primary country of residence was used for classification purposes. Cases with multiple companies were classified as foreign if a single foreign company was included. The ITC was designed to protect domestic manufacturers against foreign infringers, which implies that in the prototypical 337 case, the complainant is a domestic firm and the respondent is a foreign firm. The multiple company listing occurs more frequently for respondents (66 cases, 27 of which are coded as foreign) than complainants (356 cases, 331 of which are coded as foreign) in the ITC's database. Thus, this rule is conservative because it supports the foreign-respondent prototype more frequently than it changes the domestic–complainant prototype. If the ITC failed to provide country information for any party, the nationality of the company was classified using publicly-available information. The primary source for classifying a company was its own website. Many companies lacked a website due to bankruptcy or size, and in the absence of a company website, other sources were used, including financial listings, SEC filings, and online reference sources. Five cases could not be classified due to an inability to identify either the complainant or the respondent. These cases were excluded from our analysis.

the ITC is increasingly deviating from its original mission of protecting U.S. manufacturers from foreign infringers.[15]

Furthermore, it is not correct that the ITC has unique powers to bar importation of infringing products. Even in cases where the ITC has ruled, federal district courts retain full authority to enjoin a defendant's importation of infringing articles (see Fuji Photo Film Co. v. Benun (463 F.3d 1252, 1254-55 Fed. Cir. [2006])). In any case where a district court has jurisdiction over the manufacturer of infringing articles, the district court can address concerns about illegal imports.

3.2 Greater speed in resolving patent disputes

A second possible benefit to complainants could be the ITC's speed, but greater speed is not necessarily a benefit to the public. To the extent the ITC is biased in favor of imposition of an injunctive remedy—and the data support that hypothesis—more rapid decisions mean the more rapid infliction of harm that such unwarranted injunctive remedies would entail. That is, speed is not necessarily desirable if it comes at the cost of sacrificing careful deliberation, accuracy, or other more important goals that adjudication serves. In any case, the data suggest that the ITC's advantage in speed can be exaggerated.[16]

Moreover, those litigants for whom speed is crucially important have several options in federal court to obtain quick resolutions of their disputes. First, patentees can get preliminary injunctions in federal district court in as little as several weeks,[17] if they are able to meet the

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[15] The first patent case brought to the ITC was in 1972. By the end of 1975, only eleven patent cases had been initiated at the ITC. Given the small sample size for the 1970s (just 66 cases), the distribution of cases from the 1970s are not included in this chart. The shares for that decade were 24 percent for domestic-versus-domestic cases, 71 percent for domestic-versus-foreign cases, 5 percent for foreign-versus-foreign cases, and 0 percent for foreign-versus-foreign cases. The sample size for other decades was 187, 100, and 148 for 1980s, 1990s, and 2000s, respectively.

[16] Resolution of cases in district court takes on average between 10-23 months depending on what cases one includes in the measure (see Kesan and Ball (2006) pp. 39-40 showing that the median days to resolve a dispute in district court is less than 300 and that among cases resolved by a final ruling, the median days to resolution were between 564 and 685). ITC resolutions typically take between 12 and 18 months. See U.S. International Trade Commission: Answers to Frequent Asked Questions, at 27 (stating that "[h]istorically, the [ITC] has strived to complete most investigations in 12 to 15 months"); Toner (2005) stating that that the "turnaround time between filing and conclusion [in the ITC is] approximately 18 months"; Busey and Kolakowski (2006) stating that "[m]ost Section 337 proceedings are scheduled by the ITC for final determination within 12 to 14 months after institution."

[17] Shapiro (1993) notes that "preliminary injunction motions have become effective tools in patent infringement actions and the courts have shown an increased willingness to grant such motions" and emphasizing the speed of these proceedings by stating, for example, that "applications [for preliminary injunctions] may be heard within days or weeks after filing of the patent action."

usual requirements to obtain a preliminary injunction.[18] Second, some federal district courts have developed expedited procedures—"rocket dockets"—that may be available for patent cases.[19]

3.3 Filling gaps in federal district court jurisdiction

There are two narrow situations where federal courts may not be able to hear cases involving infringing imports. First, a U.S. patent holder would be unable to use the federal courts to get a judgment against an infringing foreign manufacturer if that manufacturer lacks sufficient contacts with the United States to provide a basis for jurisdiction (Sealed Air Corp. v. U.S.I.T.C. (645 F.2d 976, 985 C.C.P.A. [1981]).[20] Second, a U.S. company may become aware that infringing goods are being imported into the United States but be unaware of the specific source, or there may be multiple unidentified sources for such goods (Koppikar 2004). In these cases, the U.S. company may not even know which company or companies it should be attempting to sue in federal district court.

In either of these situations, a patent holder can seek relief only at the ITC under Section 337. Indeed, upon considering all three purported benefits of the ITC process, I conclude that the ITC's role in filling gaps in federal court jurisdiction is the sole compelling benefit.

4. Empirical Results on Possible Biases in Section 337 Investigations

This section tests for possible biases in the ITC's decision-making process. I exploit the fact that a patent holder can assert its patent against an allegedly infringing import in two venues in the United States: the ITC or a district court. I estimate the win rate of complainants at the ITC

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[18] Shapiro (1993) notes that the standard in patent cases is similar albeit not identical to the one in non-patent cases and describing the four factors that must be met to obtain a preliminary injunction in a patent suit, namely "(1) a reasonable likelihood of success on the merits, (2) irreparable harm, (3) the balance of hardships tipping in favor of the requesting party, and (4) that the issuance of an injunction is in the public interest"; (*eBay*, 126 S. Ct. at 1839) holding that the same four-factor test for granting permanent injunctions that applies in other types of litigation also applies in patent litigation.

[19] Creswell (2006) discusses the district court in Marshall, Texas, and its quick handling of patent cases; Vanden Plas (2006) quotes a patentee that successfully litigated its claim as saying: "It is a rocket docket here. . . . I think that this case was not even a year old"; Baldas (2004) discusses how certain courts have developed rocket dockets for patent litigation that are popular with litigants.

[20] "An exclusion order operates against goods, not parties [and is] not contingent upon a determination of personal or "in personam" jurisdiction over a foreign manufacturer."). Although the nuances of jurisdiction are beyond the scope of this paper, an example of where such jurisdiction may be lacking is when a foreign infringer manufacturers a product abroad and sells it to another foreign firm that then incorporates it into a product that is then imported into the U.S.

compared to the win rate of plaintiffs in district court and also estimate the rate at which ITC decisions are upheld upon appeal at the Federal Circuit compared to the survival rate of appealed district court decisions. Although it is possible that patent holders' initial win rate at the ITC differs from the win rate in district court as a result of selection bias—that is, if ITC complaints are systematically stronger than district court complaints—such selection bias should not affect rates of reversal on appeal. If anything, if this type of selection bias existed, it would lead to lower rates of reversal on appeal because stronger cases are likely to be less difficult or controversial to resolve and thus second-guessing by the appellate body is less likely. The data shows the exact opposite to be true, that the ITC is reversed more frequently, undermining any suggestion that selection bias is driving my results. To further assess the reliability of ITC decision making, I focus my analysis on 32 parallel cases that were tried at both the ITC and a district court.

A second and potentially more serious type of bias at the ITC in favor of complainants is the ITC's policy with respect to awarding injunctive relief once it finds that a patent was infringed. I thus compare the frequency of injunctive relief offered by the ITC and the district courts in cases where patent infringement was found.

4.1 Does the ITC rule in favor of complainant too frequently?

4.1.1 *Percent of favorable outcomes for complainant at ITC*

The win rate for complainants in patent cases brought before the ITC is generally higher than the rate for patent holders in federal district courts. Between 1975 and 1988, the complainant prevailed in 75 percent of patent cases brought before the ITC, compared with a 40 to 45 percent win rate for plaintiffs in federal district courts (see Aoki and Prusa 1993 n.10). More recent data suggest that complainants continue to enjoy a high win rate at the ITC. For example, Schwartz (2002) calculates that between 1995 and 2000 complainants at the ITC enjoyed a 67 percent win rate.

My review of the ITC's Section 337 database identifies 467 completed proceedings that mention "patent" in the unfair acts alleged through July 2006. Table 1 summarizes the results.

Table 1:
Disposition of Completed ITC Cases as of Sept. 2006

Type of case	*Disposition (percent)*
Complaint withdrawn	51 (11%)
Violation found	109 (23%)
No violation found	85 (18%)
Case settled	211 (42%)
Other	11 (6%)
Total	467

Source: ITC Database from 1972 through 2006.

Overall, the ITC found a violation in 109 cases out of 467 completed cases (23 percent).[21] Treating settlements and the finding of a violation as favorable outcomes for the complainant, the complainant received a favorable outcome in roughly 65 percent of patent cases brought to the ITC.[22] Note that this calculation yields a number close to the 67 percent win rate estimate provided by Schwartz (2002).[23]

One way to examine whether the ITC is subject to political influence of the kind described in the introduction is to compare findings of infringement for various combinations of complainant and respondent type. Under a political economy theory in which political influence is channeled toward domestic manufacturers, a domestic complainant facing a foreign respondent ("domestic-versus-foreign cases") should secure a finding of infringement more frequently than a foreign complainant facing a domestic respondent ("foreign-versus-domestic cases"). In addition, a domestic complainant facing a foreign respondent should achieve a finding of infringement more frequently than a domestic complainant facing a domestic respondent ("domestic-versus-domestic cases"), or a foreign complainant facing a foreign respondent. In the latter two situations, it is not unreasonable to assume that the political influence exerted on behalf of

[21] This number is conservative because it excludes cases in the database that show a remedy being granted but that do not specify that a violation was in fact found. But even with this conservative number, conditional on the ITC reaching a final ruling, the ITC finds in favor of the complainant 56 percent of the time 109/(109+85).

[22] I find that 18 cases both have a violation found and have a settlement. I thus exclude these duplicates from my calculation, meaning that the math here is (211 + 109 – 18)/467, which is 65%. This method for determining a favorable outcome at the ITC is conservative because it ignores cases where the database shows that a remedy was imposed (such as an exclusionary order), yet where the database does not state that a violation or settlement occurred, even though these outcomes are favorable.

[23] Schwartz (2002) also counts settlements (and presumably consent orders) as favorable for the complainant.

complainant and respondent would be comparable.[24] As Table 2 shows, the data appear to support this political economy hypothesis.

Table 2:

Likelihood that Complainant at the ITC Secures a Finding of Infringement, by Pairing of Litigants

Pairing of Litigants	*Completed cases*	*Finding of Infringement*	*Rate of Infringement*
Domestic-vs-domestic	56	13	23%
Domestic-vs-foreign	348	88	25%
Foreign-vs-foreign	55	8	15%
Foreign-vs-domestic	3	0	0%
Not categorized	5	0	0%
Total	**467**	**109**	**23%**

Source: ITC Database from 1972 through 2006.

The fact that the ITC reached a finding of infringement in domestic-versus-foreign cases (25 percent likelihood of infringement) much more frequently than it did in foreign-versus-foreign cases (15 percent likelihood of infringement) suggests that the ITC is subject to political influence by representatives of domestic firms.[25] There is also evidence of bias against foreigners in the district courts for the subset of patent cases tried by jury, which obviously will also affect all cases that settle (Moore 2003 pp. 1497, 1510).[26] However, the same research does not find evidence of bias by judges (Moore 2003),[27] which suggests that there is no political pressure in district courts. That is, the bias in the district courts seems to arise from jury xenophobia, whereas with the ITC, such bias could be political pressure or xenophobia or both on the part of the administrative judges.

To determine whether the empirical rate of infringement or "win rate" at the ITC is high or low, one needs an appropriate benchmark. As a starting point, I compare the win rates of complainants at the ITC with the win rates of plaintiffs at district courts. Relative to the overall

[24] In the case of a domestic complainant and a domestic respondent, one would expect Congress to take a keener interest on behalf of both parties.

[25] A one-sided test of proportions allows one to conclude that the rate of infringement for domestic-versus-foreign cases is greater than the rate of infringement for foreign-versus-foreign cases at the 5 percent level of significance. The same test allows one to conclude that the rate of infringement for domestic-versus-foreign cases is greater than the rate of infringement for domestic-versus-domestic cases at the 37 percent level of significance.

[26] Moore (2003) finds that domestic parties won 64 percent of the cases decided by a jury when their adversary was foreign, while foreign parties prevailed in the remaining 36 percent of such cases.

[27] Moore (2003) finds that in cases decided by judges, the patentee win rate is almost identical, with domestic patentees winning 35 percent of the time against foreign infringers, and foreign patentees winning 31 percent of the time against domestic infringers.

rate at which the ITC finds infringement (23 percent), only 6 percent of all patent cases in federal district court in 2000 resulted in a finding of infringement.[28] This simple difference in win rates supports the inference that the ITC is biased in favor of complainants relative to the district courts. Differences in procedure may account for a portion of the difference in win rates across the two patent venues, as district court patent cases often do not advance to a stage where a finding of infringement can occur. Conditional on reaching a trial at the district court, however, patent holders in district courts on average enjoy win rates in excess of 50 percent (49 percent in cases decided by a judge and 63 percent in cases decided by juries) (Moore 2000, pp. 365, 386). A very small percentage of patent cases at district courts go to trial, however,[29] and for the vast majority of cases that do not reach a trial, rulings of infringement are rare. Regardless of the source of the difference, procedural or otherwise, there is a significant difference in the rate at which patent holders achieve a finding of infringement at the ITC and in district courts.

Benchmarking against win rates at district courts would be inappropriate under two scenarios: (1) district courts themselves could be biased and (2) district courts could hear different cases from the ITC. Under either scenario, the initial inference that the ITC is biased in favor of complainants would be undermined. The first scenario depends on the direction of the alleged bias at the district courts and the relative size of the biases at both venues. Given the empirical ordering of the win rates defined by the likelihood of infringement at the two patent venues, there are three hypotheses to consider. First, the ITC and the district court are biased in favor of complainants, but the bias at the ITC is stronger—that is, the unbiased win rate is less than or equal to the actual win rate observed at the district court. Second, the ITC is biased in favor of complainants and the district courts are biased in favor of defendants—that is, the unbiased win rate is between the actual win rate observed at the district court and the actual win

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[28] Kesan and Ball (2006, p. 35) find that (1) an explicit final ruling of infringement or (2) a judgment for the patent holder that could be interpreted as an infringement ruling was found in 6 percent of all cases from 1995, 6 percent of all cases from 1997, and 4 percent of all cases from 2000. The authors also find that many (3) consent agreements (nine in 1995, six in 1997, nine in 2000) as well as (4) definitive settlements (fifteen in 1995, fourteen in 1997, and fifteen in 2000) include an explicit ruling of infringement in the docket to formalize the agreement. See Kesan and Ball (2006, p. 35 n. 198). Combining (3) consent agreements and (4) definitive settlements with an explicit ruling of infringement with (1) explicit final rulings of infringement and (2) judgments for the patent holder that could be interpreted as a finding of infringement implies that 6 percent of all patent cases in 2000 resulted in a finding of infringement.

[29] Moore (2000, p. 384) shows that in 1998, 24 percent of all patent cases were resolved without court action, 59 percent were resolved by court order or judgment on a motion, 13 percent were resolved after the pre-trial conference but before trial, and 5 percent of cases were resolved during or after the trial.

rate observed at the ITC. Third, the ITC and the district courts are biased in favor of defendants/respondents, but the bias at the district courts is stronger—that is, the unbiased win rate is greater than or equal to the actual win rate observed at the ITC. The initial inference that the ITC is biased in favor of complainants is false only if the third hypothesis is true. Based on my review of the literature, however, there is no theory or associated data that would support the claim that the ITC is biased in favor of defendants. For example, evidence of jury bias against foreigners in district courts would support the first hypothesis (that the ITC is biased in favor of complainants) but would not support the second or third hypothesis. Without any more data and setting aside the issue of selection, one cannot reject the initial inference based on a simple comparison of win rates that the ITC is biased in favor of complainants.

Benchmarking against win rates at the district court would also be inappropriate if selection issues were significant. Stated differently, the difference in the win rates might be explained by differences between the type of cases that appear before the two patent venues. For example, if the district courts were to hear more domestic-versus-foreign patent cases, and if those cases were tried by juries rather than judges, it is theoretically possible that the win rate for plaintiffs at district courts would increase. The magnitude of the difference in win rates between the ITC and the district courts, however, do not appear to be explained by these two factors: Even if all cases in district courts were domestic-versus-foreign and if all of those cases were heard by juries rather than judges, the likelihood of a finding of infringement at district courts would not increase sufficiently to eliminate the gap in win rates between the ITC and district courts.[30] Alternatively, the ITC may hear stronger patent cases than the district courts, which implies that if those stronger cases appeared instead before district courts, the win rates at district courts would increase. If the difference in win rates were solely the result of selection issues, then the empirical win rate at the district court would increase as ITC patent cases were moved to the district court. I explore this selection issue in detail in Parts IV.A.2 and IV.A.3. below.

[30] The win rate at district courts across all patent cases initiated would increase by less than two percentage points (equal to the product of (1) the difference between a 64 percent win rate in cases decided by a jury when the plaintiff was domestic and their adversary was foreign and a 35 percent win rate in cases decided by a judge when the plaintiff was domestic and their adversary was foreign and (2) the roughly five percent probability of the case reaching a trial). See Moore (2003, pp. 1510, 1512).

4.1.2 *Frequency with which ITC is overturned on appeal*

The higher initial rate of success of patent holders at the ITC could be attributed to "selection bias," that is, if ITC cases tend to involve cases of particularly clear infringement, one would expect a higher rate of success.[31] As one way to eliminate the potential for selection bias, I have compared the rate at which ITC and district court decisions in patent cases are upheld on review.[32] Both ITC and district court decisions must be appealed to the U.S. Court of Appeals for the Federal Circuit. Thus, a higher rate of reversal for ITC decisions as compared with district courts would tend to suggest that district court decisions are more accurate (that is, more likely to be correct) than ITC decisions. A higher rate of reversal for ITC decisions involving findings of patent infringement than for other ITC and district court decisions would tend to support a hypothesis of bias in favor of patent holders. It would also counter a suggestion of selection bias driving the results since if cases brought to the ITC were particularly clear cases of infringement, then one would expect to observe fewer reversals of ITC decisions than of district court decisions. Instead, the data support the hypothesis that district court decisions are more accurate, and that ITC decisions are biased in favor of patent holders.

The frequency with which an ITC ruling is overturned on appeal has been reported by Greene (2000, 2001), who finds that between 1986 and 1999, the Federal Circuit affirmed Section 337 decisions 66 percent of the time. All twelve Section 337 cases reviewed by the Federal Circuit between 1998 and 1999 were upheld. Greene does not provide a breakdown for decisions in favor of complainant versus decisions against a complainant.

There is some dispute over the precise "reversal rate" (that is, one minus the survival rate) for district court patent cases that are appealed to the Federal Circuit. A study by Federal Circuit Judge Kimberly Moore finds an average overall reversal rate for federal district court patent cases before the Federal Circuit between 1995 and 2000 of around 18 percent.[33] Although others

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[31] For example, this could be true if ITC cases typically involved outright piracy of patented goods by foreign producers. I have found no evidence to support that hypothesis, however.

[32] One might argue that selection effects determine which cases are appealed and that this undermines the validity of looking at appellate outcomes to judge whether bias exists. See, for example, Priest and Klein (1984) suggesting that selection effects determine which cases are appealed. Because similar selection effects influence the decision to appeal for different types of cases, however, selection effects should not drive differences in outcomes across those types.

[33] Moore (2001) averages rates for 1996 to 2000. Judge Moore also cites earlier research to give an overall affirmance rate of about 22 percent for the years 1983 to 1999. See Moore (2001, p. 3 n. 5, p. 17 tbl. 2).

have put the number slightly higher,[34] a 20 to 25 percent reversal rate for patent cases generally seems accurate. This also tracks the raw numbers for issue-specific reversals between 2000 and 2004.[35] Comparing this survival rate (75 to 80 percent) with the survival rate estimated by Greene above (66 percent), one concludes that district court cases fare better than ITC cases on appeal.

I attempted to update Greene's statistics with the ITC database through September 2006. Although the "Related Court Decision(s)" field in the ITC's database does not include some relevant district court decisions, it does appear to be sufficient to track the frequency with which the ITC is reversed on appeal. Table 3 summarizes these results. According to the ITC database as of July 2006, ITC determinations have been appealed in 63 investigations; 62 cases have been decided by the appellate courts, and one case is back before the ITC on remand.[36] The ITC has been affirmed 41 times (65 percent). Note that this estimate is roughly equal to Greene's estimate of a 66 percent survival rate. Thirteen cases in which infringement was found were upheld. An ITC determination has been overturned in one form or another in 22 investigations.[37] In these cases, the appeal has benefited the complainant 10 times, and the respondent 12 times.[38]

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[34] Chu (2001, pp. 1075, 1100) finds 37 percent reversal rate on the basis of a 28-month study of reversals and summary affirmances. Chu says his figures, excepting summary affirmances, track the 53 percent reversal rate identified by Judge Rader in dissent in *Cybor Corp. v. FAS Technologies, Inc.* (138 F.3d 1448, 1476 Fed. Cir. [1998]). Judge Rader's figures, however, gleaned from the Federal Circuit's own statistics, actually sum both full and partial reversals on all issues. As Judge Rader points out, the statistics show the district court is only fully reversed in patent cases 27 percent of the time. See *Cyber Corp* (138 F.3d 1448, 1476 Fed. Cir. [1998]).

[35] The University of Houston Law School tracks the appellate treatment of patent suits by issue (University of Houston Law School). For literal infringement (category 23), the sum of all reversals and affirmances, gives a reversal rate of 22 percent. Broken down by party, the numbers show a 55 percent survival rate (on this issue alone) for the plaintiff, and a 90 percent survival rate for the alleged infringer. The numbers are similar for infringement under the doctrine of equivalents (category 24). Summing all reversals and affirmances shows a 22 percent reversal rate. Note, however, that these statistics apparently *include* ITC determinations. That said, given the disparity between the number of cases decided by the commission and those before the district court (dozens versus hundreds), this is unlikely to skew the figures.

[36] The ITC database lists 67 records containing relevant Federal Circuit or Court of Customs and Patent Appeals cases. Only 63 contain a clear affirmance or rejection of an ITC determination. Some investigations have multiple appellate decisions. I treat the single case that was remanded to the ITC as being a reversal.

[37] These 22 cases include instances where the ITC's determination has been affirmed in part, vacated in part, reversed in part, reversed or vacated. Some of these investigations have an additional appellate decision affirming the ITC's determination on remand.

[38] In one case, 337-TA-406, the Disposable Cameras case, the Federal Circuit both helped and hurt the respondent (it limited the scope of the ITC determination somewhat, but upheld the exclusion order).

Table 3:
Distribution of Outcomes When ITC Case Is Appealed

ITC Ruling	*Appealed ITC Decision (A)*	*Overturned (B)*	*Upheld (C)*	*Survival Rate = (C) / (A)*
In Favor of Complainant	25	12	13	52%
In Favor of Respondent	38	10	28	74%
Total	63	22	41	65%

Source: ITC Database from January 1972 through July 2006.

Table 3 shows that ITC cases in favor of respondents have a higher survival rate upon appeal (74 percent) than do ITC cases in favor of complainants (52 percent). Note that the survival rate of ITC cases in favor of respondents is nearly identical to the general survival rate of appealed district court cases (74 percent at the ITC versus 75 to 80 percent at a district court). By contrast, when the ITC rules in favor of a complainant, the survival rate is much lower than that of a district court. This suggests that ITC rulings in favor of a complainant are less reliable than rulings in favor of respondents, which is consistent with the hypothesis of bias at the ITC.

One could argue that differences in institutional factors at the two patent venues, such as standards of review or the availability of the record, influence the likelihood of survival upon appeal to the Federal Circuit and therefore distort straightforward comparisons of survival rates. With respect to possible differences in standard of review applied to the ITC and a district court, claim construction is a matter of law, reviewed de novo whether from an ITC decision or a district court decision (see DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc. (469 F.3d 1005, 1013 Fed. Cir. [2006]) (the district court's claim construction is reviewed de novo); Gemstart-TV Guide Int'l, Inc. v. International Trade Commission (383 F.3d 1352, 1360 Fed. Cir. [2004]) (the ITC's claim construction reviewed de novo)). With regard to factual issues (for example, infringement), the standard of review is not identical but it is very close (see Dystar Textilfarben GMBH & Co. v. C.H. Patrick Co. (464 F.3d 1356, 1360 Fed. Cir. [2006]) ("factual findings" in jury trial reviewed "for substantial evidence"); Sorenson v. International Trade Commission (427 F.3d 1375, 1378 Fed. Cir. [2005]) ("This court reviews the factual determination of infringement by the International Trade Commission for substantial evidence."). With regard to availability of the record, federal courts have transcripts and agencies record proceedings, both of which are available. All evidence is also available for the court of appeals' inspection. For these reasons, such differences are unlikely to be important in explaining differences in survival rates.

4.1.3 *Comparing outcomes in parallel district court/ITC proceedings*

Another way to control for possible selection bias is to analyze patents that have been the subject of litigation in both the ITC and a district court. The ITC's online database identifies several examples of parallel or related district court cases (U.S. ITC Section 337 Database). Because the ITC database is incomplete, I conducted searches in both the Westlaw and Lexis combined federal district court case databases for patent cases brought both before the ITC and in district court.[39] My research identified 32 cases where proceedings involving the same (or closely related) patent issues were instituted in both the ITC and the federal district courts, 22 of which involved useful outcomes for purposes of my investigation.[40] The 32 parallel cases are listed in Appendix 1.

The ITC and the district court both ruled in favor of the complainant in six cases; the ITC and the district court both ruled in favor of the respondent in five cases; the ITC ruled in favor of the complainant and the district court ruled in favor of the respondent in five cases; and the ITC ruled in favor of the respondent and the district court ruled in favor of the complainant in six cases. Table 4 summarizes the results.

[39] In Westlaw, my initial survey was conducted on Sept. 21, 2006, and identified memoranda, orders and opinions that included the words "International Trade Commission" and "337," which produced 189 cases. I then surveyed the list to remove the cases dealing with dumping, countervailing duties, trademark or copyright violations. My Lexis search was also conducted on Sept. 21, 2006. There I searched for "International Trade Commission" and "337" and not "countervailing" or "dumping." That produced 93 cases, some of which were unique to Lexis. It is possible that there are a few additional cases not caught by this methodology. The only way to identify these cases would be to do individual keyword searches for each ITC investigation to see if a separate district court action was brought concerning the same patent, which does not mention the parallel ITC proceeding.

[40] I have attempted to categorize these cases into four major groups: (1) the ITC and district court both find for the complainant (c/c); (2) the ITC and district court both find for the respondent (r/r); (3) the ITC finds for the complainant and the district court favors the respondent (c/r); (4) the ITC finds for the respondent and the district court finds for the complainant (r/c). Cases that do not fit in any category, for example, because they were resolved on procedural grounds or because the district court decision did not address any issues common to the ITC determination, were not categorized. Of the 32 potential parallel cases, ten cases do not fit into any of the above four categories. My findings are detailed in Appendix 1.

Table 4:
Distribution of Outcomes in Parallel Cases

ITC Ruling	*Parallel Cases That Can Be Categorized (A)*	*District Court Reached Same Opinion (B)*	*District Court Reached Opposite Opinion (C)*	*Survival Rate = (B) / (A)*
In Favor of Complainant	11	6	5	55%
In Favor of Respondent	11	7	4	64%
Total	22	13	9	59%

Source: Westlaw and Lexis combined federal district court case databases for patent cases brought both before the ITC and in district court

An ITC decision in favor of the complainant resulted in the same outcome in a parallel case in a district court 55 percent of the time, whereas an ITC decision in favor of the respondent resulted in the same outcome in a parallel case in a district court 64 percent of the time. Thus, ITC decisions in favor of respondents are more likely to yield similar outcomes in district courts than ITC decisions in favor of complainants. When the ITC rules in favor a plaintiff, the likelihood that the district court agrees with the ITC's decision is not much better than chance. This suggests that the ITC may deviate from the district court's standards when it rules in favor of a plaintiff.[41]

The difference in survival rate widens when one considers two parallel cases (*Intel Corp. v. VIA Technologies, Inc.* and *Thomson Licensing S.A. v. Benq Corp.*) that resulted in a settlement at the ITC but a decision in favor of the respondent at a district court. To the extent that these two cases can be considered reversals of ITC decisions in favor of complainants, the survival rate for such pro-complainant decisions falls from 55 percent to 46 percent (six cases out of thirteen cases), further increasing the disparity in survival rates between ITC decisions in favor of complainants (46 percent) and ITC decisions in favor of respondents (64 percent).

Given the structure of the patent process, it is possible that the types of cases that are brought to both patent venues are not representative. When a case is pursued in both venues, the district court postpones its case to allow the ITC process to proceed, after which the parties return to court. A patent holder could learn in the ITC that its case is strong or weak and settle the district court accordingly. The resulting data set of parallel cases with a final decision in the district

[41] 18 of the 22 parallel cases involved a domestic complainant and foreign respondent. Of those, the ITC and the district court reached the same decision in 11 cases and reached the opposite decision in 7 cases.

court that remains could be a skewed set of cases that did not settle in response to the final ITC decision. It bears emphasis that of the 32 parallel cases considered here, however, only four involved settlements and only one, Intel versus VIA Technologies (Intel Corp. v. VIA Tech., Inc. (174 F. Supp. 2d 1038 N.D. Cal. [2001]), was settled at the ITC before or contemporaneously with the district court ruling. Notwithstanding these considerations, an analysis of parallel cases is a reasonable way of trying to correct for selection bias. The results support the initial inference that the ITC is biased in favor of complainants.

4.2 Does the ITC offer injunctive relief too frequently?

Patentees can use the threat of injunctive relief to extract high royalty rates in settlement from an accused infringer. If the odds of securing such an outcome are high (as they are at the ITC), that threat is credible. If the odds of securing injunctive relief are lower (as they are in a district court—even before *eBay*), that threat is less credible, and the resulting royalty rate will be lower.

Under Section 337(d), the ITC is directed to issue an exclusion order when it finds that a respondent has violated Section 337 unless, "after considering the effect of such exclusion upon the public health and welfare, competitive conditions in the U.S. economy, the production of like or directly competitive articles in the United States, and United States consumers, it finds that such articles should not be excluded from entry." (47 U.S.C. § 1337(d)(1)).[42] As an empirical matter, a determination that an exclusion order is not in the public interest is rare: the ITC has found an injunction to be inconsistent with the public interest in only three cases, compared with 113 patent cases in which an exclusion order of some kind has been issued (Duvalle, McCabe and Bateman 2005, p. 347). ITC remedy determinations are reviewed by the President and can be vetoed for policy reasons, but such vetoes are also rare: there have been only five since 1978, and none since 1987 (Duvalle, McCabe and Bateman 2005, pp. 365-69).

The ITC's very strong inclination towards issuing injunctive relief may be partly a reflection of the agency's lack of flexibility in the remedies it has the authority to impose after a finding of patent infringement. If the ITC finds a violation of Section 337, the only remedy it can impose is

[42] Under current ITC practice, an Administrative Law Judge recommends a remedy without taking public interest concerns into account. As a result, an exclusion order recommendation is automatic whenever a violation of the statute is found.

a limited or general exclusion order, accompanied in some cases by a cease-and-desist order.[43] The district courts, by contrast, have more options at their disposal in fashioning infringement remedies. Although they undoubtedly make extensive use of injunctive relief to forestall future infringement, they also can impose money damages, which, depending on the violation, may be more economically appropriate.

To determine whether the ITC is more inclined to offer injunctive relief because of its limited arsenal of remedies, I compare the incidence of injunctive relief at the ITC after a finding of infringement—which is extremely high—with the imposition of injunctive relief in a particular group of district court cases. Prior to *eBay,* many district courts failed to take sufficient account of public interest considerations militating against injunctive relief,[44] but despite this practice, I find that district courts that find infringement impose injunctive relief in only 20 percent of cases. In the future, however, one should expect that district courts will impose injunctive relief as a remedy for infringement less frequently because of the four-part test in *eBay*. This will make the ITC an even more attractive forum for patent disputes, leading to more inappropriate injunctions that result in a net harm to social welfare.

4.2.1 *Percent of exclusion/cease and desist orders issued at the ITC upon on a finding of patent infringement ("injunctive relief")*

As of September 2006, the ITC's database identified 467 completed patent-related Section 337 actions. Of those, a violation was found in 109 cases (23 percent). Of the 109 completed patent cases in which a violation was found, the ITC issued an exclusion order or a cease-and-desist order (that is, injunctive relief) in 103 cases (95 percent). In two cases, the ITC did not impose any remedy. In one case, *Steel Rod Treating Apparatus and Components Thereof* (1981), the parties settled after a violation was found. And another case, *Hand-Held Mobile Computing Devices, Components Thereof And Cradles Thereof* (2005), the complaint was withdrawn after a violation was found. I eliminate those two cases from the sample because the ITC did not have

[43] Non-compliance can result in fines of not more than the greater of $100,000 a day or twice the value of the infringing imports for each day in violation (see 19 U.S.C. § 1337(f)(2)). The ITC also has authority to enter a consent order, whereby the alleged violator agrees to comport with certain conditions in lieu of other relief, which the ITC retains authority to enforce.

[44] For example, Majoras (2006, p. 4) explains that "The Court agreed that the test should be used—a decision that conflicts with years of prevailing practice by lower courts which have granted such injunctions almost automatically."

the opportunity to impose injunctive relief. Thus, upon finding a violation of Section 337 based on importation of articles that infringe a U.S. patent, the ITC offers injunctive relief 96 percent of the time (equal to 103 cases divided by 107 opportunities).

4.2.2 *Percent of injunctive relief relative to benchmark of federal district court cases*

Kesan and Ball (2006) empirically examine the adjudication and settlement of federal district court patent disputes during three years: 1995, 1997, and 2000 (Kesan and Ball 2006, sec. i). They find an explicit final ruling of infringement or a judgment for the patent holder that could be interpreted as an infringement ruling in 277 cases in those three years (Kesan and Ball 2006, p. 35). 155 of those 277 rulings occurred at trial (Kesan and Ball 2006, p. 36). Of those 155 infringement rulings at trial, 32 resulted in a permanent injunction (Kesan and Ball 2006, p. 37 n. 210). Thus, after a finding of infringement, the district court granted injunctive relief 21 percent of the time (equal to 32 divided 155). In summary, after a finding of infringement, the ITC offers injunctive relief about five times more often (96 percent versus 21 percent) than do the district courts. This difference would likely have a large impact on the negotiations between a patent holder and an accused infringer. When a patent case is before the ITC, the patent holder can more credibly threaten to pursue injunctive relief to extract a higher royalty rate. This greater bargaining leverage may induce "patent trolls" to file claims at the ITC in the first instance.

4.2.3 *Identifying ITC cases where injunctive relief was granted or a settlement was reached that would not likely have withstood application of the Supreme Court's four-part test*

Borrowing from the literature, I identify two conditions under which injunctive relief may not be consistent with the public interest, including (1) when the product that would be enjoined contains multiple components, of which only one is the subject of the patent suit, or (2) the patentee is an NPE that asserts its patent after the accused infringer has sunk substantial costs into design, development, and commercialization of the accused product.[45] In ITC cases resulting

[45] Lemley and Shapiro (2006) describe a third condition under which injunctive relief may not be consistent with the public interest: "An additional prerequisite for denying injunctive relief should be that the defendant developed the technology independently rather than copying it from the plaintiff. While the goal of patent remedies should be to align the plaintiff's recovery with the actual value of its technical contribution, there is some risk that limiting damages and injunctive relief could encourage unscrupulous companies to steal another's technology, reasoning that

in injunctive relief for which at least one of these two conditions were satisfied, the granting of injunctive relief might not have withstood application of the Supreme Court's four-part test. I refer to cases in which the ITC granted injunctive relief when such relief was not consistent with the public interest as involving "Type II" errors. (I refer elsewhere to cases in which a tribunal erroneously fails to impose injunctive relief as involving "Type I" errors.)

I limited my search for possible Type II errors by the ITC by examining patent cases initiated between 1990 and 2000 that resulted in an exclusion order or a settlement. The 22 cases that resulted in an exclusion order are listed in Appendix 2. For each case, I examined whether the conditions identified above (which I refer to as the "component" and "NPE" conditions) were satisfied. Of the 22 cases, 16 satisfied the component condition, and none satisfied the NPE condition.[46] The 54 cases that resulted in a settlement but not an exclusion order are listed in Appendix 3. Again, for each case, I examined whether the conditions identified above (component or NPE) were satisfied. Of the 54 cases, 37 satisfied the component case condition, four satisfied the NPE condition, and four satisfied both conditions. The fact that such a large percentage of recently settled cases at the ITC (nearly 70 percent) appears to satisfy conditions under which injunctive relief may not have been appropriate suggests that patent holders may be exploiting the ITC's willingness to offer injunctive relief. That is, patent holders may be bringing cases to the ITC and not to a district court because the ITC offers them greater leverage to secure a settlement. The ITC's propensity to offer automatic injunctive relief in these cases means that it may be committing a large number of Type II errors.

One could argue that the ITC is already sensitive to component cases and thus no reform of the ITC process is needed. The ITC distinguishes exclusion orders that apply to the infringing article itself from exclusion orders that apply to products that contain the infringing article as a component—so-called "downstream" exclusion orders. When a complainant seeks to exclude downstream products, the ITC applies a balancing test originally formulated in the *Erasable*

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if they are caught they will only have to pay ex post what they would have had to pay ex ante for a license (plus considerable litigation costs)." One way to rationalize this condition is to consider it a prerequisite for either of the first two conditions. That is, the infringement must be non-willful to trigger either the component or the NPE condition.

[46] In some of those cases, the ITC's order was immediately followed by an increase in prices. For example, after the ITC's exclusion order in the Disposable Camera Case (337-TA-406), the price of disposable cameras increased from $7.93 in 2001 to $8.63 in 2002 (see General Merchandise (2001-2004). Although there is no reason to believe that this particular decision was incorrect and thus the increase in prices in this case may have been justified, it does illustrate the substantial consumer harm that could result if an unwarranted injunction were granted.

Programmable Read-Only Memories (EPROMs) case,[47] and upheld by the Federal Circuit in *Hyundai* (Hyundai Elecs. Indus. Co. v. U.S. Int'l Trade Commission (899 F.2d 1204, 1209 Fed. Cir. [1990])). The *EPROMs* test requires consideration of several factors, including the value of the component versus the value of the downstream product, the difficulty of enforcement, the marginal value of downstream exclusion to the complainant, the marginal detriment to the respondent, the burden on third parties, and the possibility of evasion absent the exclusion order.[48] Ostensibly, the *EPROMs* test is designed to allow the ITC to circumscribe an exclusion order in the interests of "sensitivity and objectivity," as the *Hyundai* court put it (*Hyundai*, 899 F.2d at 1209). However, the *EPROMs* test does not deal with an important aspect of the problem. The *EPROMs* test applies only when an infringing article is incorporated into a downstream product. It does not apply in situations where a single article encompasses many inventions, with the patented invention contributing insignificant incremental value. For example, an integrated circuit may implicate hundreds of patents, but if it is found to infringe a single patent, the integrated circuit is treated as an infringing article and is subject to almost automatic exclusion without application of the *EPROMs* test. The *EPROMs* cases are presented in Appendix 4.

Injunctive relief offered by the ITC in component or NPE cases can have detrimental effects on consumer welfare in two primary ways. First, if the exclusion order is actually issued, consumers are forced to stop using the excluded products, forced to use a less desirable substitute product, forced to bear the potentially high costs of switching to using a substitute product, and potentially forced to pay higher prices for and consume less of the substitute product if the exclusionary order reduces competition. Second, even if it is not issued, the mere threat of an exclusionary order can lead to higher prices, lower output, or both. One reason for these detrimental effects is that patent holders have excessive leverage over respondents given the ITC's nearly automatic injunction remedy. If the exclusion order is issued, then respondents will have to (1) cease production of their product, (2) pay fees to use the patented product, or (3) bear the switching costs of using a substitute product for the patented product and the costs of using a less desirable product. Injunctions can often have positive social effects if used judiciously, but

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[47] *In re Certain Erasable Programmable Read-Only Memories, Components Thereof, Products Containing Such Memories, and Processes for Making Such Memories,* Inv. No. 337-TA-276, USITC Pub. 2196 (May 1989) [hereinafter *EPROMs*].
[48] *See EPROMS*, Comm'n Op. at 124-26, 136.

the essentially automatic nature of injunctive relief in ITC proceedings even when such injunctions are not warranted causes social harm.

5. Possible Reforms of the ITC 337 Process

When the ITC's primary benefit—its ability to protect intellectual property in cases where the district courts lack jurisdiction—is weighed against the primary pitfall—the risk of unnecessary injunctive relief—the need for reform becomes clear.

This section suggests reforms that would minimize the sum of (1) the social costs of errors committed by the ITC and (2) any administrative costs associated with implementing the reforms. Because the ITC offers injunctive relief virtually automatically upon finding infringement, my proposed reforms of the ITC process would not necessarily increase Type I errors (that is, failing to offer injunctive relief when such relief is necessary),[49] and even if they did, the benefits from committing fewer Type II errors are likely to offset the costs of committing more Type I errors.[50] Thus, the objective of minimizing the social costs of errors committed by the ITC may simplify to minimizing Type II errors committed by the ITC.

To address the cost-minimization objective, I offer two basic reforms. The first reform (Reform 1) would give the district courts sole responsibility for adjudicating patent disputes whenever they have jurisdiction over the parties and would remove jurisdiction from the ITC to hear any Section 337 cases other than those that federal district courts cannot hear. The second reform (Reform 2) would leave ITC jurisdiction unchanged, but would require the ITC to apply the same test for imposition of an exclusion order as a district court applies for imposition of other types of injunctive relief. The second reform could be achieved without legislation through internal reform of the ITC's decision making criteria.

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[49] To understand why any reform that decreased the likelihood of injunctive relief from 100 percent to something less would not necessarily increase Type I errors, consider the following stylized example. The ITC receives 30 new cases per year. Of those, ten cases implicate one of the two conditions (or both) under which injunctive relief may not be consistent with the public interest. If the reform prevents the ITC from offering automatic injunctive relief (conditional on a finding of infringement) in those ten cases, then the probability of a Type I error for those cases does not increase, as those cases may not warrant injunctive relief in the first place. If the ITC continues to offer automatic injunctive relief (conditional on a finding of infringement) for the remaining 20 cases where injunctive relief may be consistent with the public interest, then the probability of a Type I error does not increase, as the ITC will never fail to offer such relief when it is warranted.

50 Mutti and Yeung (1997) demonstrate that a failure to grant injunctive relief to a complainant, including in cases when such relief is presumably needed, does not significantly affect investment decisions.

5.1 The two cost components of the policymaker's objective function

In this section, I describe the two cost components in a policymaker's objective function: (1) social costs associated with Type II errors and (2) social costs associated with administering the reform.[51] Although uniformity costs also go into a policymaker's objective function, I here conservatively assume that ITC adjudication is as uniform as district court adjudication.

5.1.1 *Social costs relating to Type II errors*

The statistics presented in Part IV demonstrate that the ITC is more likely to offer injunctive relief when it is not consistent with the public interest than are district courts—that is, the ITC is more likely to commit Type II errors. The ITC not only finds infringement more frequently than district courts, but when it does find infringement, the ITC awards injunctive relief far more often than district courts. While some of the injunctions imposed by the ITC were presumably consistent with the public interest, the probability of the ITC's offering injunctive relief when such relief is not consistent with the public interest is higher than in a district court. These Type II errors can result in large social costs, typically in the form of higher end-user prices and reduced output. Indeed, these adverse effects can result from just the threat of an injunction, since complainants can secure settlements that include inflated royalties that are then passed on to end users.

5.1.2 *Social costs relating to administering the reform*

The second cost component of the policymaker's objective function relates to the cost of implementing the proposed reform. One important consideration is whether district court litigation is more or less expensive than ITC litigation, but this paper does not attempt to assess whether litigation of patent disputes in the ITC, in the first instance, is more or less expensive than litigation in district courts. However, there are other administrative costs that are worth noting. First, broad ITC jurisdiction can lead to frequent duplicative litigation, which increases

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[51] This approach is common in the law and economics literature (see Posner (2003) stating that the objective of a procedural system is to minimize the sum of the cost of erroneous judicial decisions and the cost of operating that system; Shavell (2004) identifying procedural mechanisms to reduce the sum of error costs and decision costs; Posner (1973) postulating that framework of adjudication is to minimize the sum of error costs and direct costs, both public and private).

administrative costs. And second, damages are a cheaper remedy because, unlike injunctions, they do not involve monitoring, which increases administrative costs.

5.2 Proposed reforms

5.2.1 *Give the district court exclusive jurisdiction over any patent law claims in which it has jurisdiction over the parties*

One solution to the objective of minimizing the sum of social costs from Type II errors and the lack of uniformity in patent law is to give district courts exclusive jurisdiction over any patent law claims in which it has jurisdiction over the parties. Under this approach, the only cases in which the ITC would be permitted to adjudicate patent rights are those in which the district courts cannot do so, either because the accused infringer is not subject to the district court's jurisdiction or because the infringer cannot be identified.

If the district courts were given the ITC's current caseload, plaintiffs in those cases would likely achieve fewer findings of infringement, and conditional on achieving such a finding, plaintiffs would achieve injunctive relief less frequently, as shown in Part IV. Thus, the frequency of Type II errors across all patent cases would decline. To the extent that this approach resulted in the district courts committing more Type I errors (relative to the ITC), the benefits from committing fewer Type II errors are likely to offset the costs of committing more Type I errors. According to Mutti and Yeung, a failure to grant injunctive relief to a complainant (including cases when such relief is presumably needed) does not significantly affect investment decisions. Thus, the cost of failing to offer injunctive relief when it is needed (in terms of reduced future welfare due to reduced current investment) is likely smaller than the cost of offering injunctive relief when it is not needed (in terms of less current welfare due to higher prices).

It seems likely that this proposed reform will also tend to reduce administrative costs. Eliminating the overlapping jurisdiction of the ITC will eliminate the possibility of serial litigation of the same patent disputes, first at the ITC and then in district courts, with substantial savings both in terms of resources of the ITC itself and of the parties to the litigation. And since the district courts can impose damages rather than injunctions, that will lower monitoring costs.

5.2.2 *Require the ITC to apply ordinary standards for imposition of injunctive remedies*

Another possible reform would be to allow the ITC to retain its current jurisdiction but require the ITC to apply the same test for application of injunctive remedies as the district courts, that is, the public interest test defined by the Supreme Court in *eBay*. In particular, a complainant at the ITC seeking an exclusion or cease-and-desist order should be required to show that (1) it suffered an irreparable injury, (2) remedies at law are inadequate to compensate for that injury, (3) an importation ban is warranted in light of the balance of hardships between the plaintiff and the defendant, and (4) the public interest would not be disserved by an importation ban. In applying that test, the ITC should explicitly consider the availability of remedies in district court. In other words, as long as the respondent is subject to jurisdiction of a U.S. court, the availability of damages remedies (and other relief) should be taken into account in deciding whether to impose an exclusion order. This second reform has the advantage that it could be implemented without legislative action. The language of the statute already authorizes the ITC to take such equitable considerations into account. Thus, Section 337(c) provides that the Commission must consider "[a]ll legal and equitable defenses . . . in all cases," and the public interest language of section 337(d)(1)—though it has been given a narrow reading by the ITC in the past—would appear to require consideration of public interest factors before imposing any exclusion order. As an alternative, Congress could adopt legislative guidance to clarify the public interest standard in a manner consistent with economic theory. For example, Congress could provide guidance on how the availability of commercial substitutes informs a public interest determination. A reasonable rule would dictate that the ITC should generally withhold any importation ban for products that lack commercially available substitutes, under the rationale that the social costs of banning imports without substitutes outweighs the other elements of the public interest test.

Another potential advantage of this reform is that it would not include the use of juries, which as noted earlier, may be biased. At the same time, this advantage would need to be weighed carefully against possible biases in ITC decision making relative to those of district courts. This proposed reform would have minimal administrative costs. In the transition phase, the ITC would have to study how federal district courts implement the test articulated in *eBay*. However, by limiting the cases in which injunctions are granted, this reform would limit the social costs from monitoring.

6. Conclusion

This paper is the first to rigorously measure biases in the ITC's decision-making process. One indication of bias is comparing the ITC's propensity to find infringement with that of a district court. Although this comparison may be affected by selection issues, two tests that attempt to control for selection lend support for the claim that the ITC is biased in favor of complainants. A more formal treatment of the selection issue, perhaps involving an analysis of a plaintiff's decision on where to bring a patent case, would provide further insight on the ITC's bias in favor of complainants. The choice of patent venue could be modeled as a function of several explanatory variables, including patent strength (citations made and originality), industry type, and the size of the patentee. With a better understanding of the factors that influence the venue choice, one could estimate the marginal win rates and frequency of injunction if the ITC's caseload were moved to the district courts as contemplated under my first remedy.

A second indicator of bias relates to the type of remedies that the ITC and the district courts impose when they find infringement. I find that the ITC imposes injunctions—the most favorable remedy for patent holders—at five times the rate of district courts. Indeed, the difference is so stark (96 percent at the ITC versus 20 percent at a district court) that it could induce patent trolls to take advantage of the Section 337 process. In the wake of the Supreme Court's *eBay* decision, one would expect this differential to widen, as injunctive relief should be awarded less frequently in district courts. The resulting adverse selection problem implies that even more socially inefficient "hold up" should occur in the future in ITC litigation.

Reform of the ITC process should be aimed at minimizing the sum of the social cost of errors and administrative costs. Giving the district courts the sole responsibility for adjudicating patent disputes whenever they have jurisdiction over the parties would reduce error costs while likely not imposing additional administrative costs. This solution would leave the ITC as a backstop to adjudicate patent disputes that could not be brought in federal district court. An alternative reform would be for the ITC to retain its current jurisdiction but reform its decision making to bring its practice with regard to issuance of injunctive remedies into line with the practice of district courts in patent cases.

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APPENDIX 1: PARALLEL DISTRICT COURT/ITC PROCEEDINGS

ITC Investigation	Related District Court Cases	Claimant(s)	Respondent(s)	ITC Disposition	District Court Disposition	Category
337-TA-004	W.L. Gore & Associates v. Oak Materials Group, 424 F. Supp. 700, 192 USPQ 687 (D. Del. 1976).	W.L. Gore & Associates, Inc.	Johnson & Johnson, Inc., et al.	No Violation	Claimant disaffirmed all claims to the patent. Court had no jurisdiction to decide case. Rest of case was determination of who has to pay court costs. Only judgment was that respondent did not establish enough evidence to entitle them to attorneys fees	r/r
337-TA-018	World-Wide Volkswagen v. USITC, 414 F. Supp. 713, 191 USPQ 626 (D.D.C. 1976).	Engelhard Minerals and Chemicals Corp.	Volkswagenverk A.G., et al.	Settlement	District court dismissed action by distributors, not parties to ITC proceeding, for lack of jurisdiction over interlocutory order.	s/c
337-TA-037	See Stevenson v. Grentec, Inc., 652 F.2d 20 (9th Cir. 1981).	Richard L. Stevenson, d.b.a. Makaha International, Los Angeles, CA	New Zeal Enterprise Co., et al.	Violation; General Exclusion Order	ITC, district court and 9th Cir. initially find for respondent. CCPA reverses. In later litigation, district court finds for respondent on validity.	c/r
337-TA-097	Ashlow Ltd. v. Morgan Construction Co., 672 F.2d 371, 213 USPQ 671 (4th Cir. 1982); Ashlow Ltd. v. Morgan Const. Co., 1982 WL 52161, (D.S.C. Feb 02, 1982).	Morgan Construction	Korf Industries & Handle, GmbH, et al.	Violation found; settlement.	District court overturns ITC in favor of respondent (but is overturned on appeal).	c/r
337-TA-162	Telectronics Proprietary, Ltd. v. Medtronic, Inc., 687 F. Supp. 832 (S.D.N.Y. 1988).	Medtronic	Telectronic Australia, et al.	Other (ITC found the existence of a license and, therefore, no violation).	District court grants alleged infringer's motion to dismiss antitrust, RICO counterclaims. Also held that unclean hands defense not available in antitrust claims, and defense of license barred by res judicata or collateral estoppel after	r/r

					ITC proceeding.	
337-TA-171	Glasstech, Inc. v. AB Kyro Oy, Order (E.D. Mich. Dec. 17, 1984).	Glasstech, Inc.	AB Kyro Oy, Finland, et al.	Violation; Limited Exclusion Order	District court did not address the merits of the infringement claim, though it did take the ITC's findings into account in the "success on the merits" prong of the preliminary injunction test. District Court and ITC are in accord.	c/c
337-TA-189	Corning Glass Works v. Sumitomo Electric U.S.A., Inc., 671 F. Supp. 1369, 5 USPQ2d 1545 (S.D.N.Y. 1987), aff'd, 868 F.2d 1251, 9 USPQ2d 1962 (Fed. Cir. 1989); 674 F. Supp. 1074, 7 USPQ2d 1806 (S.D.N.Y. 1987); 683 F. Supp. 81, 7 USPQ2d 1809 (S.D.N.Y. 1988); 683 F. Supp. 979, 7 USPQ2d 1810 (S.D.N.Y. 1988); 1988 WL 64369 (S.D.N.Y. 1988).	Corning	Sumitomo Electric Industries, Japan, et al.	No Violation	ITC ruled patents infringed, but failed to find injury to domestic market. Federal Circuit affirmed, but vacated patent determinations as moot. District court found patents valid and infringed.	r/c
337-TA-212	616 F. Supp. 1134, 228 USPQ 726 (D. Del. 1985); 721 F. Supp. 596, 12 USPQ 1275 (D. Del 1989), appeal denied, 904 F.2d 44 (Fed. Cir.) [unpublished], reh'g denied, 903 F.2d 822 (Fed. Cir.), reh'g en banc denied, (Fed. Cir.), cert. denied, 498 U.S. 897 (1990); 814 F. Supp. 1197, 26 USPQ2d 1667 (D. Del. 1993); 817 F. Supp. 434 (D.	Diversified Products Corp.	H.C. Enterprise Co., Ltd., et al.	No violation.	Does not appear to be a direct ruling on patent validity. District courts find no preclusive effect for ITC legal determinations; find preclusion for factual findings. Refuses to grant respondents summary judgment on invalidity claims.	r/r

	Del. 1993).					
337-TA-215	Tandon Corp. v. Mitsubishi Electric Corp., et. al., Order (C.D. Cal. April 30, 1986).	Tandon Corp.	Mitsubishi Elec. Corp., et al.	No violation; settlement.	Cannot find district court order.	r/?
337-TA-228	Comair Rotron v. Matsushita Elec. Corp., 31 F.3d 1177, (Fed. Cir. 1994) (affirming district court finding of validity and infringement).	Rotron	Matsushita Elec. Corp.	Violation; limited exclusion order.	Federal Circuit reversed ITC no-infringement determination. District court later found validity and infringement.	c/c
337-TA-242	Texas Instruments, Inc. v. Hyundai Elec., Ltd., 49 F. Supp. 2d 893 (E.D. Tex. 1999).	Texas Instruments, Inc.	Fujitsu, Ltd., et al.	Violation; limited exclusion order; settlement.	No final disposition for patentee; court rejects most of respondents affirmative defenses.	c/c
337-TA-266	Meditech International Co. v. Minigrip, Inc., 648 F. Supp. 1488 (N.D. Ill. 1986).	Minigrip, Inc.	A.G. Enterprises, et al.	Violation; general exclusion order.	District court denied Minigrip's motion to dismiss, but stayed the proceeding until the ITC had reached a final determination on Meditech's claims, which were carried over from a previous investigation (337-TA-027). During pendency of the action, the ITC initiated another investigation (337-TA-266) to resolve new questions relating to the patent and the standing exclusion order. Meditech was invited to pose its concerns to the Commission, but apparently did nothing.	c/r

337-TA-281	The procedural history of the Amgen '008 patent is extremely complicated. See the ITC spreadsheet for more detail.	Amgen, Inc.	Chugai Pharmaceuticals Co., Ltd.	No violation.	In brief, the ITC ruled the patent unenforceable because it covered an article and not the process used to produce the imports. That ruling was vacated by the Federal Circuit, which found the ITC should have decided the case on the merits. Various district courts, however, held the '008 patent valid and infringed.	r/c
337-TA-306	Baldwin Hardware Corp. v. Frank Su Enterprises Corp., 1991 WL 329565 (C.D. Cal. 1991); Baldwin Hardware Corp. v. Frank Su Corp., 1992 WL 340766 (C.D. Cal. 1992).	Baldwin Hardware Corp.	Frank Su Enterprises	Consent order.	District court rules for plaintiffs on infringement.	c/c
337-TA-315	Texas Instruments, Inc. v. Cypress Semiconductor Corp., 39 U.S.P.Q.2d 1481 (N.D. Tex. 1995).	Texas Instruments Corp.	Integrated Technology Inc., et al.	Violation; cease & desist order; limited exclusion order; settlement.	District court, affirmed by Fed. Cir., grants JMOL for respondents on infringement.	c/r
337-TA-324	Levi Strauss & Co. v. Golden Trade, 1995 WL 710822 (S.D.N.Y. Dec. 1, 1995).	Greater Texas Finishing Corp. & Golden Trade S.R.L.	Gitano Group, et al.	Violation; consent order; general exclusion order; settlement.	District court finds three claims invalid, for alleged infringers. Denies summary judgment on other claims.	c/r
337-TA-358	Genentech, Inc. v. Novo Nordisk, 935 F. Supp. 260 (S.D.N.Y. 1996).	Genentech, Inc.	Novo-Nordisk A/S, et al.	No violation.	District court grants preliminary injunction to patentee, but is reversed by Federal Circuit.	r/c
337-TA-366	Minnesota Mining & Manuf. Co. v. Beautone Specialties Co., 117 F. Supp. 2d 72 (D. Mass. 1999).	3M	Taiwan Hopax Chemicals Manufacturing Co., et al.	No violation by district court defendant. Violation by other ITC respondents.	District court grants summary judgment to defendant under law of equivalents.	r/r
337-TA-406	Fuji Photo Film Co., Ltd. v. Jazz Photo Corp., 249 F.Supp.2d 434 (D.N.J. 2003);	Fuji Photo Film Co., Ltd.	Achiever Industries, Ltd., et al.	Violation found; cease & desist order; general exclusion order. Fed. Cir. limits	2003 district court case accords with eventual ITC finding that some	c/c; r/r

	173 F.Supp.2d 268 (D.N.J. 2001).			the scope of the exclusion order.	cameras are permissibly repaired and not impermissibly restored.	
337-TA-428	Intel Corp. v. VIA Tech., Inc., 174 F. Supp. 2d 1038 (N.D. Cal. 2001).	Intel	VIA Technologies, et al.	Settlement (protective order in place).	District court finds patent valid, but rules in favor of respondent because of license ambiguity.	s/r
337-TA-432	Texas Instruments, Inc. v. Tessera, Inc., 192 F.R.D. 637 (C.D. Cal. 2000).	Tessera, Inc.	Texas Instruments, Inc., et al.	Settlement.	District court denies TI preliminary injunction to prevent Tessera (licensor) from maintaining action at ITC, finding little chance that TI would succeed in arguing that ITC proceeding was litigation, covered under forum selection clause. Overruled by Federal Circuit.	s/c
337-TA-434	Medrad, Inc. v. Tyco Healthcare, 391 F. Supp. 2d 374 (W.D. Pa. 2005).	Medrad, Inc.	Nemoto Kyorindo Co. Ltd., et al.	No violation.	District court held patentee could not use reissue statute to correct procedural mistake made during prosecution of predecessor patent.	r/r
337-TA-439	PCTEL, Inc. v. Agere Systems, Inc., 2006 WL 734385 (N.D. Cal. Mar. 20, 2006).	PCTEL, Inc.	Smart Link Ltd., et al.	Settlement.	District court partially differs from ITC on claim construction, in favor of respondent.	N/A
337-TA-445	Competitive Technologies v. Fujitsu Ltd., 286 F. Supp. 2d 1161 (N.D. Cal. 2003).	Board of Trustees of University of Illinois & Competitive Technologies, Inc.	Fujitsu Ltd., et al.	Complaint withdrawn.	District court finds for respondents on invalidity defense.	w/r
337-TA-474	U.S. Philips Corp. v. Princo Corp., 361 F. Supp. 2d 168 (S.D.N.Y. 2005).	Philips Corp.	Acme Production Industries, et al.	No violation.	District court awards summary judgment to patentee on misuse defense.	r/c
337-TA-477	Climax Molybdenum Co. v. Molychem, LLC, 414 F. Supp. 2d 1007 (D. Colo. 2005).	Climax Molybdenum Co.	Molychem LLC, et al.	No violation.	District court permits respondent to maintain antitrust claims and refuses to bifurcate antitrust and	r/r

					patent issues into separate actions.	
337-TA-497	Chamberlain Group v. Skylink Technologies, Inc., 292 F. Supp. 2d 1040 (N.D. Ill. 2003).	The Chamberlain Group, Inc.	Skylink Technologies, Inc., et al.	No violation.	District court grants summary judgment for respondents on DMCA claims. Patent claims go to ITC.	r/r
337-TA-506	Zoran Corp. v. Mediatek, 2005 WL 3448070 (N.D. Cal. Dec. 15, 2005).	Zoran Corp. & Oak Technology, Inc.	Artronix Technology, Inc., et al.	Violation; cease & desist order; limited exclusion order.	District court denies respondent motion for summary judgment on invalidity defense.	c/c
337-TA-512	Citizen Electronics Co. v. Osram GmbH, 377 F. Supp. 2d 149 (D.D.C. 2005).	OSRAM GmbH.	Dominant Semiconductors Sdn. Bhd., et al.	Violation; limited exclusion order.	Non-party competitor suit for declaratory judgment on infringement; district court dismissed.	c/c
337-TA-524	Verve LLC v. Verifone, Inc., 2004 WL 2600452 (N.D. Cal. Nov. 15, 2004).	Verve LLC	Thales e-Transactions, Inc., et al.	Complaint withdrawn.	Stay on motion of respondents granted.	w/r
337-TA-534	Thomson Licensing S.A. v. Benq Corp., 2005 WL 1039030 (E.D. Cal. May 4, 2005).	Thomson Licensing, S.A., et al.	BenQ Corp., et al.	Settlement.	Stay on motion of respondents granted.	s/r
337-TA-535	Ciena v. Nortel, 2005 WL 1189881 (E.D. Tex. May 19, 2005).	Ciena Corp.	Nortel Networks Corp., et al.	Complaint withdrawn.	District court grants respondent's motion to force complainant to withdraw from ITC proceedings.	w/r

Notes: c/c means the ITC and district court both find for the complainant; r/r means the ITC and district court both find for the respondent; c/r means the ITC finds for the complainant and the district court favors the respondent; r/c means the ITC finds for the respondent and the district court finds for the complainant; w means the case was withdrawn and s means the case settled.

APPENDIX 2: CANDIDATES FOR TYPE II ERRORS BY THE ITC—CASES THAT RESULTED IN AN EXCLUSION ORDER (WITHOUT SETTLEMENTS) BETWEEN 1990 AND 2000

Investigation Number	In the Matter of Certain	Condition 1: Component?	Condition 2: Non-Practicing Entity?
337-TA-314	Battery-Powered Ride-On Toy Vehicles and Components Thereof	Yes.	No.
337-TA-320	Rotary Printing Apparatus Using Heated Ink Composition, Components Thereof, and Systems Containing Said Apparatus and Components	Yes.	No.
337-TA-333	Woodworking Accessories	No.	No.
337-TA-334	Condensers, Parts Thereof and Products Containing Same, Including Air Conditioners for Automobiles	Yes.	No.
337-TA-344	Cutting Tools For Flexible Plastic Conduit and Components Thereof	Yes.	No.
337-TA-354	Tape Dispensers	No.	No.
337-TA-364	Curable Fluoroelastomer Compositions and Precursors Thereof	Yes.	No.
337-TA-365	Audible Alarm Devices for Divers	No.	No.
337-TA-366	Microsphere Adhesives, Process For Making Same, and Products Containing Same, Including Self-Stick Repositionable Notes	Yes.	No.
337-TA-372	Neodymium-Iron-Boron Magnets, Magnet Alloys, and Articles Containing the Same	Yes.	No.
337-TA-376	Variable Speed Wind Turbines and Components Thereof	Yes.	No.
337-TA-382	Flash Memory Circuits and Products Containing Same	Yes.	No.
337-TA-383	Hardware Logic Emulation Systems and Components Thereof	No.	No.
337-TA-391	Toothbrushes and the Packaging Thereof	Yes.	No.
337-TA-395	EPROM, EEPROM, Flash Memory, and Flash Microcontroller Semiconductor Devices and Products Containing Same	Yes.	No.

337-TA-406	Lens-Fitted Film Packages	Yes.	No.
337-TA-413	Rare-Earth Magnets and Magnetic Materials and Articles Containing the Same	Yes.	No.
337-TA-416	Compact Multipurpose Tools	No.	No.
337-TA-422	Two-Handle Centerset Faucets and Escutcheons, and Components Thereof	Yes.	No.
337-TA-430	Integrated Repeaters and Products Containing the Same	Yes.	No.
337-TA-435	Integrated Repeaters, Switches, Transceivers, and Products Containing Same	Yes	No
337-TA-440	4-Androstenediol	No.	No.

APPENDIX 3: CANDIDATES FOR TYPE II ERRORS BY THE ITC—CASES THAT RESULTED IN A SETTLEMENT (WITHOUT EXCLUSION ORDER) BETWEEN 1990 AND 2000

Investigation Number	In the Matter of Certain	Component	NPE
337-TA-309	Athletic Shoes With Viewing Windows	No.	No.
337-TA-310	Pyrethroids and Pyrethroid-Based Insecticides	No.	No.
337-TA-312	Dynamic Random Access Memories, Static Random Access Memories, Components, and Products Containing Same	Yes.	No.
337-TA-316	Power Transmission Chains, Chain Assemblies, Components Thereof, and Products Containing Same	Yes.	No.
337-TA-318	Anti-Knock Ignition Systems and Automobiles or Automobile Component Parts Containing Same	Yes	Likely yes.
337-TA-322	Microporous Nylon Membrane and Products Containing Same	Yes.	No.
337-TA-323	Monoclonal Antibodies Used For Therapeutically Treating Humans Having Gram Negative Bacterial Infections	No.	No.
337-TA-325	Static Random Access Memories and Integrated Circuit Devices Containing Same, Processes For Making, Components, and Products Containing Same	Yes.	No.
337-TA-326	Scanning Multiple Beam Equalization Systems For Chest Radiography and Components	Yes.	No.
337-TA-329	Vacuum Cleaners	No.	Possibly licensed.
337-TA-331	Microcomputer Memory Controllers, Components Thereof and Products Containing Same	Yes.	No.
337-TA-332	Translucent Ceramic Orthodontic Brackets	No.	No.
337-TA-336	Single In-Line Memory Modules and Products Containing Same	Yes.	No.

337-TA-338	Bulk Bags and Process For Making Same	No.	No.
337-TA-339	Commercial Food Portioners, Components Thereof, Including Software, and Process Thereof	Yes.	Maybe.
337-TA-341	Static Random Access Memories, Components Thereof and Products Containing Same	Yes.	No.
337-TA-342	Circuit Board Testers	No.	No.
337-TA-345	Anisotropically Etched One Megabit and Greater DRAMs, Components Thereof, and Products Containing Such DRAMs	Yes.	No.
337-TA-348	In-Line Roller Skates With Ventilated Boots And In-Line Roller Skates With Axle Aperture Plugs and Components Parts Thereof	Yes.	No.
337-TA-350	Sputtered Carbon Coated Computer Disks and Products Containing Same, including Disk Drives	Yes.	Yes.
337-TA-356	Integrated Circuit Devices, Processes For Making Same, Components Thereof, and Products Containing Same	Yes.	No.
337-TA-357	Sports Sandals and Components Thereof	Yes.	No.
337-TA-359	Dielectric Miniature Microwave Filters and Multiplexers Containing Same	Yes.	No.
337-TA-362	Methods of Assembling Plastic Ball Valves and Components Thereof	Yes.	No.
337-TA-367	Facsimile Machines	No.	No.
337-TA-368	Rechargeable Nickel Metal Hydride Anode Materials and Batteries, and Products Containing Same	Yes.	No.
337-TA-373	Low-Power Computer Hard Disk Drive Systems and Products Containing Same	Yes.	No.
337-TA-381	Electronic Products, Including Semiconductor Products, Manufactured by Certain Processes	Yes.	No.
337-TA-385	Random Access Memories, Processes for the Manufacture of Same, and Products Containing Same	Yes.	No.

337-TA-386	Global Positioning System Coarse Acquisition Code Receivers and Products Containing Same	Yes.	No.
337-TA-387	Self-Powered Fiber Optic Modems	No.	No.
337-TA-388	Dynamic Random Access Memory Controllers and Certain Multi-Layer Integrated Circuits, as Well as Chipsets and Products Containing Same	Yes.	No.
337-TA-389	Diagnostic Kits for the Detection and Quantification of Viruses	No.	No.
337-TA-394	Screen Printing Machines, Vision Alignment Devices Used Therein, And Component Parts Thereof	Yes.	No.
337-TA-400	Telephonic Digital Added Main Line Systems, Components Thereof, And Products Containing Same	Yes.	No.
337-TA-401	CD-ROM Controllers and Products Containing Same	Yes.	No.
337-TA-402	Integrated Circuits and Products Containing Same	Yes.	No.
337-TA-404	SDRAMs, DRAMs, ASICs, RAM-and Logic Chips, Microprocessors, Microcontrollers, Processes for Manufacturing Same and Products Containing Same	Yes.	No.
337-TA-405	Automotive Scissors Jacks	No.	No.
337-TA-407	Remodulating Channel Selectors and Systems Containing Same	Yes.	No.
337-TA-408	Recombinantly Produced Hepatitis B Vaccines and Products Containing Same	Yes.	No.
337-TA-414	Semiconductor Memory Devices and Products Containing Same	No.	No.
337-TA-417	Code Hopping Remote Control Systems, Including Components and Integrated Circuits Used Therein	No.	No.
337-TA-421	Enhanced DRAM Devices Containing Embedded Cache Memory Registers, Components Thereof, and Products Containing Same	No.	No.
337-TA-425	Amino Fluoro Ketone Compounds	No.	No.

337-TA-427	Downhole Well Data Recorders and Components Thereof	Yes.	No.
337-TA-429	Bar Clamps, Bar Clamp Pads, and Related Packaging, Display, and Other Materials	No.	No.
337-TA-431	Synchronous Dynamic Random Access Memory Devices, Microprocessors, and Products Containing Same	Yes.	Yes.
337-TA-432	Semiconductor Chips With Minimized Chip Package Size And Products Containing Same	Yes.	Possibly yes.
337-TA-433	Safety Eyewear and Components Thereof	Yes.	No.
337-TA-436	WAP-Compatible Wireless Communication Devices, Components Thereof, And Products Containing Same	Yes.	No.
337-TA-438	Plastic Molding Machines With Control Systems Having Programmable Operator Interfaces Incorporating General Purpose Computers, And Components Thereof	No.	No.
337-TA-439	HSP Modems, Software and Hardware Components Thereof, and Products Containing Same	Yes.	No.
337-TA-441	Field Programmable Gate Arrays and Products Containing Same	Yes.	No.

APPENDIX 4: ITC CASES INVOLVING THE EPROM TEST

Investigation	Product	Scope	Applied Downstream?	Limited Application Downstream?	Comments
337-TA-541	Power Supply Controllers	Applies to infringing power supply controllers and downstream LCD monitors containing same.	Yes.	No.	The Commission admits the significant value of downstream products relative to infringing component (18-22 cents versus hundreds of dollars). It also dismisses concerns about the application of the order to non-respondent manufacturers.
337-TA-481/491	Display Controllers	Applies to downstream LCD monitors and circuit boards.	Yes.	Yes.	LCD monitors are exclusive of televisions.
337-TA-450	Integrated Circuits	Includes chips, chipsets *and* motherboards incorporating same.	Yes.	Yes.	Extends to motherboards made on or on behalf of infringer.
337-TA-435	Integrated Repeaters, Switches and Transceivers	Applies to all circuit boards and carriers including infringing component.	Yes.	Yes.	The Commission *disregarded* the *EPROMs* factors in extending the order to circuit boards and carriers.
337-TA-395	EPROMs	Applies to all circuit boards containing infringing component but not finished electronics.	Yes.	Yes.	
337-TA-382	Flash Memory Circuits	Extends to all circuit boards and carriers.	Yes.	Yes.	Commission reverses ALJ determination extending limited exclusion order to *all* downstream products, including finished consumer electronic units. Extends exclusion order, however, to circuit boards and carriers containing infringing circuits. Argues that evidence shows that Samsung, respondent, could easily import infringing components in circuit boards, extract component after import and throw away the board.
337-TA-374	Electrical Connectors	Applies to downstream motherboards.	Yes.	Yes.	Commission notes downstream motherboard could be worth more than 80 or 90 times as

					much as the infringing component.
337-TA-366	Microsphere Adhesive (that is, Post-It Notes)	Applied to portfolios and other similar products containing Post-It Notes.	Yes.	No.	
337-TA-337	Touch-Tone Phone Chips	Extends to "low-end" telephones containing same, regardless of manufacturer.	Yes.	Yes.	Commission admits value of downstream product could "far exceed" tone dialer chips.
337-TA-334	Condensers in Car Air Conditioners	Applies to air conditioner kits but not to automobiles.	Yes.	Yes.	Finds that complainant had not purchased infringing condensers in five years, respondent had quality control systems in place, burden would be high, and value compared to finished product is very low.
337-TA-315	Plastic Encapsulated Circuits	Applies to downstream motherboards, but not consumer electronics.	Yes.	Yes.	
337-TA-276	EPROMs	Applies broadly downstream to most of respondent's electronic equipment containing infringing component, but not to automobiles.	Yes.	Yes.	This is the actual case formulating the nine-prong test. Respondent was Hyundai.