

FOLLOWING *CLEARCORRECT*: A GUIDELINE FOR REGULATING DIGITAL TRADE

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The Federal Circuit’s *ClearCorrect* decision made waves in the worlds of 3D printing technology and international trade. After the International Trade Commission (ITC) asserted its authority over digital imports to the United States, *ClearCorrect* severely limited that authority. This Note will explore a brief history of the ITC and some decisions showing different areas where the ITC has claimed authority. Next, this Note will detail the *ClearCorrect* decision, which placed new restrictions on the ITC’s authority. Finally, this Note will discuss the uncertainty over where the limit on the ITC’s authority lies.

To help the ITC cope with the uncertainty around the borders of its jurisdiction, this Note proposes three tests for the ITC’s scope of authority. This Note compares the tests to one another with a focus on the policy implications of each and considers how some decisions over emerging technologies would be resolved under each test. Finally, this Note suggests that the ITC adopt the exclusive ownership test—whether or not an individual can have sole possession of the item under consideration—due to the simplicity it provides in decision making, the ease in enforcing decisions, and the low likelihood of the Federal Circuit overturning future ITC decisions.

I. WHY THE INTERNATIONAL TRADE COMMISSION CLAIMED AUTHORITY

This Part first considers the rise and expansion of the ITC and how the Federal Circuit regulates it. It then discusses how the ITC established its authority over digital trade in *Certain Hardware Logic* and *Suprema*. Finally, this Part examines the *ClearCorrect* decision, including the ITC’s ruling and the Federal Circuit decision overturning that ruling.

A. INTERNATIONAL TRADE COMMISSION HISTORY

The history of the International Trade Commission provides important context for this discussion.

1. *Creation and Charge of the ITC*

The International Trade Commission was created in 1916.¹ The main purpose of the Commission at that point was to use scientific means to study and regulate the nation's tariff levels, which had been fluctuating greatly throughout the 19th century.² The newly created Commission was also tasked with regulating unfair practices in import trade, although this was mostly an advisory role with no real associated powers.³ With the Tariff Act of 1930, Congress implemented the current basis for the ITC's powers regarding import trade. In the Tariff Act of 1930, Congress gave the Commission the duty of dealing with the importation into the United States of "articles that infringe" on valid U.S. patents, copyrights, and trademarks.⁴ Despite receiving these duties in 1930, the ITC did not get its current name and ability to fully perform these duties until 1974.⁵ The Trade Act of 1974 made the ITC's decisions on import trade final rather than merely advisory.⁶ This statute also gave the ITC the ability to issue cease and desist orders along with exclusion orders to prevent infringing articles from entering the United States.⁷

Section 337 investigations are the primary means the ITC uses to regulate the importation of infringing articles.⁸ The owner of any valid U.S. intellectual property may assert that another entity is importing infringing articles, triggering an investigation.⁹ The ITC then investigates whether the alleged infringing articles are truly infringing and whether they are truly being imported, both of which must be happening in order for the ITC to intervene.¹⁰ After trial proceedings before administrative law judges and an ITC review of the proceedings, the ITC has the power to issue temporary

1. Pub. L. No. 64-271, § 700, 39 Stat. 795 (1916).

2. *U.S. Tariffs and Trade: A Timeline*, U.S. INT'L TRADE COMM'N, https://www.usitc.gov/flash/dynamic_timeline.htm [<https://perma.cc/QM85-CGG7>].

3. See *id.*

4. 19 U.S.C. § 1337 (2012).

5. *U.S. Tariffs and Trade*, *supra* note 2.

6. *Id.* (explaining that section 337 determinations were made final but remained subject to presidential approval for policy reasons).

7. 19 U.S.C. § 1337.

8. *Intellectual Property*, U.S. INT'L TRADE COMM'N, www.usitc.gov/intellectual_property.htm [<https://perma.cc/33EG-G4QW>].

9. *Id.*

10. *Id.*

exclusion orders preventing the infringing articles from entering the country.¹¹ In exceptional circumstances, the ITC also has the power to issue cease and desist orders against specific importers engaged in the unfair importation acts.¹² U.S. Customs and Border Patrol enforces these decisions using its presence at all U.S. border ports and its ability to intercept and exclude products when necessary.¹³ Many intellectual property owners threatened by international competition go to the ITC rather than more standard remedy routes because of these harsh penalties and the ITC's quick decision-making process.

Along with regulating unfair trade practices, the ITC also has a wide range of other trade-related duties.¹⁴ Headed by six appointed commissioners, the ITC has duties to maintain the Harmonized Tariff Schedule of the United States and to regulate international trade unrelated to intellectual property.¹⁵ The ITC also conducts economic analyses and provides information and policy support on tariffs and international trade to elected officials.¹⁶ This varied range of responsibilities leaves the ITC without the sophisticated knowledge necessary to make decisions on difficult technological issues.

2. *How Courts Use the Chevron Test to Rule on an Agency's Interpretation*

As an agency created by Congress, the ITC has the duty to interpret the charges Congress lays down.¹⁷ When the wording in a statute governing an agency's duties is ambiguous, in order for the agency to remain self-sufficient apart from Congress, the agency must interpret the statute to best resolve the ambiguity.¹⁸ *Chevron* developed the framework for this interpretation. *Chevron* challenged the Environmental Protection Agency's (EPA) interpretation that the term "stationary source" applied to pollution emitting devices within the same industrial grouping.¹⁹ The Supreme Court laid out a two-step plan for courts to judge an administration's interpretation.²⁰ The first step is to determine "whether Congress has

11. *Id.*

12. *Id.*

13. *Id.*

14. *USITC Facts*, U.S. INT'L TRADE COMM'N, https://www.usitc.gov/employment/usitc_facts.htm [<https://perma.cc/53BA-F4AZ>].

15. *Intellectual Property*, *supra* note 8.

16. *Id.*

17. *Chevron, U.S.A., Inc. v. NRDC, Inc.*, 467 U.S. 837, 843–44 (1984).

18. *Id.*

19. *Id.* at 840.

20. *Id.* at 842.

directly spoken to the precise question at issue.”²¹ If so, then whatever Congress has said will control.²² If Congress has not directly addressed the issue, then the court must determine if the agency’s interpretation is “based on a permissible construction of the statute.”²³ If the agency’s interpretation is reasonable, it is “entitled to appropriate deference to its interpretation.”²⁴ Later, in *United States v. Mead Corp.*, the Supreme Court added a step zero to the *Chevron* test. This step is to determine whether Congress intended the agency to have authority over this issue and is thus entitled to any deference at all.²⁵

3. *In the Matter of Certain Hardware Logic*

In the past, the ITC has generally classified digital files as a good rather than a service, placing them under ITC authority. In *Certain Hardware Logic Emulation Systems and Components Thereof (Certain Hardware Logic)*,²⁶ Quickturn sought to exclude from importation logic emulation systems that infringed their patents.²⁷ The emulators were used to test electronic circuits in semiconductor devices and included software that could be sent on a physical device or electronically into the United States.²⁸ The ITC held that a cease and desist order could be granted against such software because the software could be combined with the physical emulators to infringe Quickturn’s patents.²⁹ The ITC concluded that electronic transmission of the software must be prevented because it is not substantially different from storing the software on a physical medium and shipping that into the United States.³⁰

4. *Suprema v. ITC*

In 2015, the Federal Circuit issued a decision on a similar case, *Suprema, Inc. v. ITC*, in which it affirmed the ITC’s decision to exclude fingerprint scanners that only infringed on a patent when combined with

21. *Id.*

22. *Id.* at 842–43.

23. *Id.* at 843.

24. *Enercon GmbH v. ITC*, 151 F.3d 1376 (Fed. Cir. 1998).

25. *United States v. Mead Corp.*, 533 U.S. 218 (2001) (involving a U.S. Customs Service interpretation of “bound diaries”).

26. *In the Matter of Certain Hardware Logic Emulation Sys. & Components Thereof*, Inv. No. 337-TA-383, USITC Pub. 3089 (Mar. 1998) (Final).

27. Daniel T. Kane, *Printing a War in Three Dimensions: Expanding “Article” to Include Electronic Transmissions Before the ITC*, 27 *COMMLAW CONSPPECTUS* 427, 439 (2015).

28. *Id.*

29. *Id.* at 440.

30. *Certain Hardware Logic*, 1998 ITC LEXIS at 138.

software after entering the United States.³¹ Applying *Chevron*, the Federal Circuit first found that the term “articles that infringe” did not unambiguously state that the articles had to be infringing at the border.³² Proceeding to step two of the *Chevron* analysis, the court found that the ITC’s interpretation was permissible, despite the fact that the scanners had to go through a step after entering the country to make them infringing.³³

5. *Other Approaches*

Courts other than the Federal Circuit have contested the distinction between a good and a service. In *Former Employees of Computer Sciences Corp. v. U.S. Secretary of Labor*, the U.S. Court of International Trade (CIT) held that electronic software is an article.³⁴ The CIT has jurisdiction over civil actions arising out of international trade laws,³⁵ using the Harmonized Tariff Schedule to govern.³⁶ The harmonized tariff schedule includes telecommunications transmissions as a category of articles that encompasses electronic software.³⁷ The World Trade Organization (WTO) has also established guidelines for dealing with electronic software.³⁸ The WTO distinguishes between goods and services, with the more liberal General Agreement on Tariffs and Trade (GATT) governing goods and the stricter General Agreement on Trades in Services governing services.³⁹ Among its guidelines for what to consider when distinguishing goods and services, the WTO lists the statutory constructions, the common meanings of the terms, the stated goals of each agreement, and the functionality of the product.⁴⁰ The European Commission has applied these guidelines to treat digital products as services, but the U.S. has stated that the more liberal GATT may be more beneficial for these types of products.⁴¹

31. *Suprema, Inc. v. ITC*, 796 F.3d 1338 (Fed. Cir. 2015).

32. *Id.* at 1346.

33. *Id.* at 1346–49.

34. *Former Emps. of Comput. Scis. Corp. v. U.S. Sec’y of Labor*, 414 F. Supp. 2d 1334, 1336 (Ct. Int’l Trade 2006).

35. *About the Court*, U.S. COURT OF INT’L TRADE, <http://www.cit.uscourts.gov/AboutTheCourt.html> [<https://perma.cc/ZLR4-4A7V>].

36. Sapna Kumar, *Regulating Digital Trade*, 67 FLA. L. REV. 1909, 1928 (2016).

37. *Id.*

38. See Sam Fleuter, *The Role of Digital Products Under the WTO: A New Framework for GATT and GATS Classification*, 17 CHI. J. INT’L L. 153, 167 (2016).

39. *Id.* at 156.

40. *Id.* at 162–74.

41. *Id.* at 162.

6. *Expanding the ITC's Jurisdiction*

Over the last few years there have been several attempts made to create legislation that would allow the ITC to give stronger protection at the U.S.'s digital borders instead of leaving border protection to an assembly of different agencies.⁴² The Stop Online Piracy Act (SOPA)⁴³ and Preventing Real Online Threats to Economic Creativity and Theft of Intellectual Property Act (PIPA)⁴⁴ were drafted in order to prevent copyright infringement from foreign websites.⁴⁵ These acts would have given copyright holding entities the ability to block access to foreign infringing websites.⁴⁶ But largely due to concerns about suppressing free speech along with unprecedented amounts of online resistance, both of these acts failed to pass.⁴⁷ Despite these initial failures, Congress tried again with the Online Protection and Enforcement of Digital Trade Act (OPEN).⁴⁸ This act would have explicitly given the ITC authority over digital trade entering the United States and mooted the *ClearCorrect* decision.⁴⁹ While OPEN was targeted at preventing copyright infringement by digital files, its reach would likely have been expanded to include patent infringement as well.⁵⁰ Unfortunately for the ITC and U.S. IP owners, OPEN failed to pass as well, leaving the protection responsibilities in its previous patchwork state.⁵¹

B. *CLEARCORRECT V. ITC*

Align Technology (Align) is a company that makes orthodontic aligners, owning numerous patents for the manufacture and design of these aligners.⁵² The aligners are designed to be placed on a patient's teeth to reposition the teeth into a more desirable arrangement.⁵³ As of 2014, Align owned 11 percent of the global orthodontic market and has plans to expand

42. Tabrez Y. Ebrahim, *3D Printing; Digital Infringement & Digital Regulation*, 14 NW. J. TECH. & INTELL. PROP. 37, 71 (2016).

43. Stop Online Piracy Act, H.R. 3261, 112th Cong. (2011).

44. Preventing Real Online Threats to Economic Creativity and Theft of Intellectual Property Act of 2011, S. 968, 112th Cong. (2011).

45. Peter S. Menell, *This American Copyright Life: Reflections on Re-Equilibrating Copyright for the Internet Age*, 61 J. COPYRIGHT SOC'Y 235, 269 (2014).

46. *Id.* at 317–19.

47. *Id.* at 311.

48. *See* Ebrahim, *supra* note 42, at 72–74.

49. *Id.*

50. *Id.*

51. *ClearCorrect Operating, LLC v. ITC*, 810 F.3d 1283, 1287 (Fed. Cir. 2015).

52. *Id.*

53. *Id.*

this market share even further.⁵⁴ ClearCorrect Operating, LLC (ClearCorrect) is a competitor to Align and attempted to impinge on this market.⁵⁵

ClearCorrect conducted its business as follows. A patient looking for orthodontic help would have their teeth scanned by ClearCorrect in the United States, creating a digital model of the patient's teeth.⁵⁶ The digital file containing the model would then be sent electronically to ClearCorrect's Pakistan entity.⁵⁷ ClearCorrect Pakistan would then reshape the model to create the final desired teeth arrangement.⁵⁸ ClearCorrect Pakistan would then electronically send back the reshaped model, still in a digital file, into the United States.⁵⁹ ClearCorrect would then 3D print the aligner to give to the patient.⁶⁰

Threatened by the competing company, Align looked for options to prevent ClearCorrect's business. Because of the harsh penalties available—cease and desist and exclusion orders and the possibility of a quicker decision—Align chose to pursue remedy from the ITC rather than from district court.⁶¹ Align asserted infringement of seven of their aligner patents with claims covering the forming of dental appliances, the production of digital data sets, the production of the orthodontic appliances, and the associated treatment methods.⁶²

1. *The ITC's Decision*

The ITC laid down its decision on Align's complaint in *In the Matter of Certain Digital Models, Digital Data, and Treatment Plans for Use in Making Incremental Dental Positioning Adjustment Appliances, the Appliances Made Therefrom, and Methods of Making the Same (Certain Digital Models)*.⁶³ The ITC issued a cease and desist order against ClearCorrect, preventing ClearCorrect from electronically importing or

54. *Strategic Growth Drivers*, ALIGN TECH., INC., http://investor.aligntech.com/alignar_final_7-8-14/strategic-growth-drivers.html [<https://perma.cc/CG9D-WKSB>].

55. *See ClearCorrect*, 810 F.3d at 1287.

56. *Id.*

57. *Id.*

58. *Id.*

59. *Id.*

60. *Id.*

61. *See id.* at 1283.

62. *Id.* at 1287–88.

63. *In the Matter of Certain Digital Models, Digital Data, & Treatment Plans for Use in Making Incremental Dental Positioning Adjustment Appliances, the Appliances Made Therefrom, & Methods of Making the Same*, Inv. No. 337-TA-833, 2014 ITC LEXIS 337 (Apr. 3, 2014) (Final).

selling the orthodontic appliances covered by Align's patents.⁶⁴ The ITC found that ClearCorrect infringed the patents with its methods of forming dental appliances and with its production of digital data sets.⁶⁵ The ITC based this decision on an interpretation of the term "articles," which the ITC has the power to regulate under section 337.⁶⁶

In making their decision, the ITC relied on the 1924 edition of *Webster's Dictionary* that reads, in part, "a thing of a particular class or kind; as an article of merchandise."⁶⁷ The ITC chose this dictionary as a standard from the time that the Tariff Act of 1930 was written.⁶⁸ The ITC took this definition to mean an article is an identifiable unit that may be traded in commerce or used by consumers and therefore included digital files.⁶⁹ The use of the terms "importation" and "sale" in Section 337 corroborated this decision, leading the ITC to conclude that an article is any imported item that is bought or sold.⁷⁰ Because ClearCorrect printed and sold the digital files to their patients, the ITC held that the files were included in this definition of articles.

Finally, the ITC looked to its strengthened powers from 1974 to reason that it should protect against unfairly traded imports and must adopt a broad definition of articles.⁷¹ To prevent ClearCorrect's unfair importation, the ITC included digital files in its definition of articles so that the enhanced remedies could be used to protect Align.

2. *The Federal Circuit's Decision*

ClearCorrect challenged the ITC's decision that its jurisdiction included digital files, appealing to the Federal Circuit.⁷² In applying *Chevron*, the Federal Circuit focused on step one: whether Congress had spoken directly to this precise question.⁷³ Section 337 contains no definition of "articles," so the Federal Circuit construed the term from its ordinary meaning.⁷⁴ The Federal Circuit looked to the predecessor Act of 1922 along with contemporary dictionaries from that time.⁷⁵ The Federal Circuit disagreed

64. *Id.* at *6.

65. *Id.* at *5–7.

66. *ClearCorrect*, 810 F.3d at 1289–90.

67. *Id.* at 1291–92.

68. *Id.*

69. *Id.*

70. *Id.* at 1294.

71. *Id.* at 1296.

72. *Id.* at 1287–89.

73. *Id.* at 1290.

74. *Id.* at 1290–91.

75. *Id.* at 1291–93.

with the ITC's use of the 1924 edition of *Webster's*, calling it imprecise and vague, instead choosing a more holistic approach.⁷⁶ The Federal Circuit cited *Funk & Wagnall's New Standard Dictionary of the English Language* (1931), *The Century Dictionary and Cyclopaedia* (1911), *Webster's New Modern English Dictionary* (1922), and *Black's Law Dictionary* (1933).⁷⁷ Each of these dictionaries uses the term "material things" in its definition of "article."⁷⁸ The Federal Circuit also cited two modern dictionaries, *Webster's Third New International Dictionary* (2002) and *Random House Webster's Unabridged Dictionary* (2001), which define articles as material things as well.⁷⁹ Finally, the Federal Circuit cited the ITC's own *Dictionary of Tariff Information* (1924) which, at its broadest, defines articles as "material items that are fully manufactured, material items that are altered in some way, or raw materials."⁸⁰ The requirement of materiality in all of these definitions played into the Federal Circuit's decision that articles did not include digital files.

The Federal Circuit next turned to the ITC's reasoning on the use of articles in section 337.⁸¹ The Federal Circuit reasoned that if articles were held to mean intangibles, numerous other subsections of Section 337 would become meaningless.⁸² One example of this is the subsection on forfeitures and seizures.⁸³ Electronic transmissions do not cross U.S. border points and therefore cannot be forfeited or seized.⁸⁴ The Federal Circuit also reasoned that subsections about ports of entry would be void because there could be no "attempted entry" of digital files.⁸⁵ There would be tremendous difficulty in enforcing decisions on these files if the ITC expanded the definition of articles to include digital files.⁸⁶ The Federal Circuit also looked at the full Tariff Schedule and concluded that it limited articles to tangible items only.⁸⁷

Finally, the Federal Circuit looked at the ITC's argument that its enhanced remedies required a broad definition.⁸⁸ The ITC argued that cease

76. *Id.* at 1293–94.

77. *Id.* at 1291–93.

78. *Id.* at 1292–93.

79. *Id.* at 1292.

80. *Id.* at 1292–93.

81. *Id.* at 1294.

82. *Id.* at 1295.

83. *Id.*

84. *Id.*

85. *Id.*

86. *See id.*

87. *Id.* at 1297–98.

88. *Id.* at 1296.

and desist orders could be used in cases where exclusion orders could not, such as with digital files.⁸⁹ The Federal Circuit rejected this argument, holding that cease and desist orders were meant to be a lesser punishment when exclusion orders were too harsh, not the exclusive remedy if an exclusion order was unavailable.⁹⁰ The Federal Circuit claimed that there is no logical connection between the additional remedy and an expanded definition of articles.⁹¹

Because the Federal Circuit determined that Congress had directly spoken on this particular issue, it held that Congress's intention would control and it was not necessary to address step two of the *Chevron* test in depth.⁹² The Federal Circuit briefly criticized the ITC's decision not to adopt any of its cited dictionary definitions.⁹³ It also criticized the ITC's analysis of the legislative history regarding the definition.⁹⁴ The Federal Circuit also never addressed *Chevron*'s step zero, questioning whether the ITC had any authority over this area in the first place.

Judge O'Malley offered a concurring opinion, which included an analysis of step zero.⁹⁵ She argued that Congress never intended to grant the ITC authority over incoming internet data transmissions.⁹⁶ The ITC has never regulated the Internet in the past and Congress must "speak clearly if it wishes to assign to an agency decisions of vast 'economic and political significance,'" as the Internet would be.⁹⁷ Congress never granted this authority, specifically failing to pass SOPA, PIPA, and OPEN, and so Judge O'Malley argued that the inquiry should not even reach step one of the *Chevron* test.⁹⁸

II. WHY THE ITC SHOULD ADOPT THE EXCLUSIVE OWNERSHIP TEST

This Part will first discuss the differences between the *ClearCorrect* and *Suprema* decisions. It will then provide a list of terms similar to articles that have been used interchangeably. This Part will then distinguish these terms from services by way of three different tests that different entities use.

89. *Id.*

90. *Id.*

91. *Id.* at 1296-97.

92. *Id.* at 1299-1300.

93. *Id.* at 1300.

94. *Id.*

95. *Id.* at 1302-03.

96. *Id.*

97. *Id.*

98. *Id.* at 1303-04.

Finally, this Part will suggest which test the ITC should be using in future cases that present similar issues.

A. DISTINGUISHING *CLEARCORRECT* FROM *SUPREMA*

On a cursory glance, the Federal Circuit’s decisions in *ClearCorrect* and *Suprema* may appear to present similar issues. Thus, one may wonder how the Federal Circuit could give two very different opinions on the two cases. But, with a more in-depth examination, it becomes apparent that the two cases are not that closely related. In *Suprema*, the court decided on the interpretation of an article that infringed, while in *ClearCorrect*, the court decided on the interpretation of articles.⁹⁹

Despite appearances, the overlap between the analysis of “article” in *ClearCorrect* and “article that infringed” in *Suprema* is minimal. In *Suprema*, there was no question that the imported fingerprint scanners were articles.¹⁰⁰ The controversy was over whether the ITC could exclude scanners at the border when they only infringed when combined with some software inside the United States but did not infringe at the border itself.¹⁰¹ And in *ClearCorrect*, neither party disputed that the digital files infringed Align’s patents when the files were sent into the United States.¹⁰² The parties disputed whether the files counted as articles and fell under the ITC’s authority.¹⁰³ The major similarity between the two cases is that each one considered whether the court should give deference to the ITC’s interpretation of a statute.¹⁰⁴ But each decision appropriately applied the *Chevron* test, and the fact that the two applications of the test came out differently does not mean that the test was applied wrongly in either instance.

While the Federal Circuit’s *ClearCorrect* decision limits the ITC’s jurisdiction, the holding might be narrower than it appears to be. Even though the Federal Circuit declared that the ITC does not have authority over electronically transmitted digital files, the ITC may still have authority under slightly different circumstances. The answer may depend on the similarities between “articles,” “goods,” and “components” and the distinction between these and “services.” The *ClearCorrect* decision completely eliminates uniquely designed digital files from the ITC’s

99. Compare *Suprema, Inc. v. ITC*, 796 F.3d 1338 (Fed. Cir. 2015), with *ClearCorrect*, 810 F.3d at 1283 (Fed. Cir. 2015).

100. See *Suprema*, 796 F.3d at 1342.

101. See *id.*

102. See *ClearCorrect*, 810 F.3d at 1288–89.

103. See *id.* at 1289.

104. Compare *Suprema*, 796 F.3d at 1345–46, with *ClearCorrect*, 810 F.3d at 1290.

jurisdiction, including computer-aided design (CAD) files for individual aligners, customized software, unique blueprints, and other similar files.¹⁰⁵ But digital files that are mass marketed, such as CAD files for a widely-used product, digital software, or digital copies of movies, books, and music, could be something that the ITC still has control over.

Because the Federal Circuit did not lay a framework for how the ITC should decide what is and is not an article, a test must be devised to help the ITC make these decisions. This requires examining other related statutory terms and distinguishing goods from services—which the ITC does not have jurisdiction over.

B. OTHER RELATED TERMS

The *ClearCorrect* decision only focused on the ITC's interpretation of the term "articles."¹⁰⁶ But it is worth considering other statutory terms which have been used in very similar situations with similar meanings to determine if this is the correct approach. The most prevalent synonym for "articles" is "goods." In *Suprema*, the Federal Circuit used "goods" and "articles" interchangeably, indicating that they are very closely related.¹⁰⁷ In *Certain Digital Models*, the ITC followed this approach, stating that "articles" is "synonymous with goods, commodities, and merchandise."¹⁰⁸ The 1929 House Report substituted "products" for "articles" throughout the text.¹⁰⁹ For contributory infringement, "component" is used to identify the parts of a patented invention.¹¹⁰

Another term that has been used in place of "article" or "good" is "component." When looking for contributory infringement, the court considers whether a "component" has been sold or offered for sale.¹¹¹ A "component" is usually a physical piece of a system.¹¹² But something may also be considered a "component" if it is sufficiently representative of the end product.¹¹³ And digital files are not precluded from being considered

105. See *ClearCorrect*, 810 F.3d at 1301-02.

106. *Id.* at 1290-1301.

107. See generally *Suprema*, 796 F.3d 1338.

108. In the Matter of Certain Digital Models, Digital Data, & Treatment Plans for Use in Making Incremental Dental Positioning Adjustment Appliances, the Appliances Made Therefrom, & Methods of Making the Same, Inv. No. 337-TA-833, 2014 ITC LEXIS 1234, *65 (Apr. 9, 2014) (Final).

109. See, e.g., H.R. REP. No. 71-7, at 3 (1929).

110. See Ebrahim, *supra* note 42, at 63.

111. *Id.*

112. *Id.*

113. *Id.*

components.¹¹⁴ In *Microsoft v. AT&T*, the court held that digital software can be a component if it is encoded in memory.¹¹⁵

Additionally, computer icons and computationally designed chemical structures have been labeled components.¹¹⁶ It has been argued that, because a CAD file is not involved in the final product, it cannot be a component; simply being a precursor is insufficient.¹¹⁷ This argument is based on the logic that the tools used to make a physical product would not be considered components and a CAD file is simply a tool used to make a 3D printed physical product.¹¹⁸ This argument fails, though, because the CAD file may itself be the end product.¹¹⁹ The CAD files could be, and would necessarily be, “components” if the CAD files were the products being sold. All of these terms are used widely throughout different legislation, but each of them is essentially used to refer to something that is infringing on a patent or copyright. This shows that despite the variety of terms used, Congress treats each of them essentially the same. In other words, articles are the same as goods, which are the same as components, and so on. This is important because each of these is distinct from services, which the ITC does not have authority over.

C. GOODS AND SERVICES

In international trade, a “good” is distinguished from a “service” to determine who should be in charge of regulating a specific product.¹²⁰ The standard test used to distinguish “goods” and “services is the “tangibility test.” In addition to this test, there are three major approaches that various other bodies use to make this distinction.¹²¹ The first this Note will call the predominant purpose test: essentially, whether the “service” aspect of creating the product dominates over the “good” aspect involved in selling the product. The next test this Note will call the equivalent end use test: if a digital file can be used for the same end use as a physical equivalent, the digital file is likely a “good.” The third test is the exclusive ownership test: an “article” must have the potential to be exclusively owned to qualify under this test.

114. *Id.*

115. *Microsoft Corp. v. AT&T Corp.*, 550 U.S. 437 (2007).

116. *See* Ebrahim, *supra* note 42, at 63–64.

117. *Id.*

118. *Id.*

119. *Id.*

120. Lucas S. Osborn, *Regulating Three-Dimensional Printing: The Converging Worlds of Bits and Atoms*, 51 *SAN DIEGO L. REV.* 553, 567 (2014).

121. Fleuter, *supra* note 38, at 162–73.

1. *The Predominant Purpose Test*

The predominant purpose test is favored by courts to determine if the Uniform Commercial Code (UCC) should apply to a certain case.¹²² Goods are defined under the UCC as “all things . . . movable at the time of identification to the contract for sale.”¹²³ Software can often have both a good and a service aspect. Courts have traditionally drawn the line between mass-marketed software and custom-built software.¹²⁴ For custom-built software, the service of creating the software dominates over the good aspect of selling one copy, and thus, it is a service.¹²⁵ For mass-marketed software, on the other hand, the good aspect of selling many copies dominates.¹²⁶ Going along with this, files that are fully produced and then sold are considered goods, but files that have an ongoing upkeep or modification plan after being sold are services.¹²⁷

This fits with the *ClearCorrect* decision, where the court did not treat digital files for aligners as articles.¹²⁸ The service aspect—the work that goes into creating the CAD files for the aligners—clearly dominates over the good aspect—the sale of the product to one customer. Further, the CAD files can be tweaked after importation, an ongoing service. But, mass-marketed CAD files are a different case. For these, the good aspect of selling the file for many different 3D printings dominates over the service aspect of creating the file one time. CAD files that are imported for mass distribution also would have no post-importation individualized alterations. These files may be tougher to distinguish from a traditional article to take them out of the ITC’s jurisdiction.

1. *The Equivalent End Use Test*

The WTO uses the equivalent end use test to decide how to treat products in international trade.¹²⁹ Under the WTO’s likeness principle, countries should give like treatment to like goods and services.¹³⁰ In deciding the likeness of two products, countries should consider whether

122. Osborn, *supra* note 120, at 572.

123. *Id.* at 571.

124. *Id.* at 572.

125. *See id.* at 568.

126. *See id.*

127. *See* Fleuter, *supra* note 38, at 160–61.

128. *ClearCorrect Operating, LLC v. ITC*, 810 F.3d 1283 (Fed. Cir. 2015).

129. *See* Fleuter, *supra* note 38, at 166 (noting that one of the WTO’s fundamental principles is the “likeness principle,” which espouses “like treatment to like goods and services”).

130. *Id.*

two products are capable of achieving the same result, as well as the extent to which customers treat the two products as alternative means to satisfy the same need.¹³¹ In other words, if a digital file can serve the same end use as a physical product, countries should treat it like the physical product in international trade. This principle is easily applicable to E-products such as digital copies of books, movies, or music. Because both the digital file and the physical copy can be used to read the book, watch the movie, or listen to the music, the two should be treated the same. The fact that customers are increasing their consumption of digital media to replace physical copies further strengthens this argument. A CAD file for 3D printing probably does not serve the same end use as the physical product. The digital files to create ClearCorrect's aligners do nothing to align the customers' teeth and the customers would not view the CAD file as an acceptable replacement.

2. *The Exclusive Ownership Test*

The final approach to distinguishing an article from a service, the exclusive ownership test, involves both the ability of an entity to have full possession over the product along with the tradability of the product.¹³² An article can be retained and traded multiple times, giving each successive owner an economic benefit from their ownership.¹³³ A service, instead, is used up by its transmission; once the service has occurred, it cannot be transferred to another entity.¹³⁴ CAD files certainly give the owner an economic benefit and can be traded without using up the file like a service.

The second part of this test, the exclusive ownership of the product, also is not as large a hurdle as it seems. Digital files are distinct from physical products in that when they are transferred to another owner, the original owner can retain a copy of the file.¹³⁵ But nobody would say that books are not products because owners can make copies of them before they transfer the books. And digital rights management technology is available to curtail some of this exclusivity issue.¹³⁶ The owners of CAD files for a retainer do get some small economic benefit from their ownership, as the file can be sold to the customer with matching teeth who will print and use the aligner.

131. *Id.*

132. *See id.* at 165 (citing Peter Hill, *Tangibles, Intangibles and Services: A New Taxonomy for the Classification of Output*, 32 CAN. J. ECON 426 (1999) (“[A]n essential characteristic of a good is that ‘an entity over which ownership rights may be established and from which its owner(s) derives some economic benefit.’”)).

133. *Id.*

134. *Id.*

135. *Id.*

136. *Digital Rights Management*, ELEC. FRONTIER FOUND., <https://www.eff.org/issues/drm> [<https://perma.cc/YJY3-3JXX>].

And with the lack of a major exclusive ownership issue, ClearCorrect's files would likely be considered articles under this test.

D. APPLYING THE TESTS

The facts in *ClearCorrect* are not the only imaginable scenario in which the ITC may be forced to confront the importation of infringing digital files. As more and more patents relate to electronics, a number of similar situations may arise. This Part will explore some of these hypothetical issues, looking at how the Federal Circuit may view them and the policy implications of such decisions. The ITC should follow the exclusive ownership test for a number of reasons.

1. Policy Framework

Before considering these hypotheticals, it is important to create a framework for judging the policy implications. One major factor to consider is the capability of the agency to regulate what it is charged with regulating. The ITC, for example, currently has very sophisticated powers to stop infringing physical products from entering the United States via one of the country's border ports.¹³⁷ But the ITC, and any other agency for that matter, does not currently have the ability to intercept or exclude digital files from entering the United States by electronic transmission.¹³⁸ This gap in agency capability exists despite the failed attempts at passing legislation that would give some agency these powers.¹³⁹ Because many of these hypothetical scenarios involve the electronic transmission of digital files, it is worth considering if any U.S. agency could easily bring these products into their authority and whether legislation could be passed allowing them to do so.

Another factor to consider is the ease with which a line can be drawn between what is and is not an article. As detailed earlier, the ITC has a wide range of responsibilities that limits the commissioners' ability to specialize on this specific topic.¹⁴⁰ Creating a test with a lot of uncertainty creates a situation where the ITC must make difficult decisions in an area outside its expertise. A test where a clear distinction exists between what is and is not under ITC authority will ease this process tremendously.

Finally, when applying a test, the ITC must choose one that will not leave its decisions subject to reversal by the Federal Circuit. The ITC should

137. *Official Harmonized Tariff Schedule 2017*, U.S. INT'L TRADE COMM'N, <https://www.usitc.gov/tata/hts/index.htm> [<https://perma.cc/7Y6X-ELHE>].

138. *See id.* (noting that while the USITC maintains the Official Harmonized Tariff Schedule, "Customs and Border Protection is the only agency that can provide legally binding advice or rulings on classification of imports").

139. *See Ebrahim, supra* note 42, at 71.

140. *See USITC Facts, supra* note 14.

not be making decisions on cases that the Federal Circuit believes are outside the ITC's authority. The best test will give results that align with what the Federal Circuit has decided.

2. *The Easy Cases*

The most common, and easiest to decide, situation to examine is one in which a physical device, such as a flash drive or a CD, containing infringing digital files is physically shipped into the United States. An example of this is a bootlegged movie sent into the United States on a DVD. But it may also occur with music, e-readers, or flash drives containing protected 3D printing files of blueprints. Importing physical devices containing copies of software is very similar to the importation of hard copies of other digital files. In these situations, people are only buying and selling a physical copy of the software and not software in the abstract.¹⁴¹ These cases clearly fall under the ITC's current authority and should remain that way.¹⁴²

These products would be considered articles under all three tests. Under the predominant purpose test, the good aspect clearly predominates. These items are made to be distributed to many consumers with a minimal or nonexistent ongoing service relationship. The equivalent end use test is almost unnecessary because these are physical products. They do not need to be equivalent to a different article to be considered the same. If it is necessary, the media files are essentially the same as non-digital copies of books or movies and should be treated the same. And the exclusive ownership test is easily satisfied as well. As physical items, they can only have one owner to which they provide an economic benefit. There is no issue of transmitting while retaining the original.

An easy case not under ITC authority is telecommunications transmissions. Despite the Court of International Trade's inclusion of these in its definition of articles,¹⁴³ it is unlikely that either the ITC or the Federal Circuit would agree with that decision. Telecommunications transmissions would fail to qualify as goods under all three tests. The service aspect clearly dominates, as they are used up on transmission and are not something that can be sold to a consumer. They are not equivalent to any physical product and are much closer to a service providing assistance over a phone. And they cannot be exclusively owned and do not provide an economic benefit because they are fleeting and cannot be retained.

141. See Kumar, *supra* note 36, at 1927, 1958.

142. Ebrahim, *supra* note 42, at 74.

143. Kumar, *supra* note 36 at 1928.

3. *The Middle Ground*

The middle ground consists mostly of digital files for a wide range of purposes. One example is a digital CAD file for 3D printing. This is essentially what was at issue in *ClearCorrect* where the files were uniquely designed. But it could also apply to the transmission of mass-marketed CAD files, either for standalone products or for replacement parts of preexisting products.

Under the predominant purpose test, the ITC may be required to draw a line between these two types of CAD files. The service aspect would dominate unique files while the good aspect would dominate mass-marketed files. This goes against the principle of creating a simple, bright line rule for the ITC to follow in these cases to ease the burden in their decision-making process. Under the exclusive ownership test, these files could again go either way. Being digital files, there is the possibility that the files could be transmitted while the original owner retained a copy. But if DRM technology was used, this issue could be eliminated; if so, the digital file would be a good. This creates another difficult distinction for the ITC to make. The equivalent end use test is the only one that provides a clear outcome to these files. Although the files are a step on the way to a physical 3D-printed product, they clearly cannot serve the same function as the physical product. They would not be considered goods under this test.

Digital media files are similar to 3D printing files, but they do not yield the same results under every test. Digital media files, such as movie streams, music files, or textbook pdfs, can be uploaded and hosted on a non-U.S. website. This is the major issue that PIPA and SOPA were designed to deal with.¹⁴⁴ Customers in the United States can then access and download these files and circumvent paying for the copyrighted works. These illegal downloaders can be prosecuted, although usually there are so many downloaders who download relatively few works that prosecution is rare.¹⁴⁵ And DMCA takedowns can be ordered, but this only applies to hosts that the DMCA governs and can often be ignored.¹⁴⁶

These files are likely a good under the predominant purpose test. The files are mass marketed and designed to be distributed to many customers,

144. Menell, *supra* note 45, at 317.

145. Jeff Stone, *How People Are Caught Illegally Downloading Music, Movie Torrents*, INT'L BUS. TIMES (Sept. 12, 2012), <http://www.ibtimes.com/how-people-are-caught-illegally-downloading-music-movie-torrents-783071> [<https://perma.cc/4QVE-AM AQ>].

146. Andy, *Completely Ignoring the DMCA an Option for Torrent Sites?*, TORRENT FREAK, (Jan. 31, 2016), <https://torrentfreak.com/completely-ignoring-the-dmca-an-option-for-torrent-sites-160131> [<https://perma.cc/UB3U-QU G4>].

so the good aspect certainly dominates over the service that goes into creating the file. The files are likely a good under the equivalent end use test as well. When a customer is accessing the file to watch the movie or listen to music, there is no difference to them between having the physical DVD or CD and downloading the file off the Internet. For the same reasons as 3D-printing files, the exclusive ownership test gives a gray area. Again, the files require DRM technology to ensure that they are not dually owned. A classification as an article under this test would require that this technology is attached.

Electronic software is a final example of files that may come out differently under the three tests. The predominant purpose test depends on whether the software is custom designed or mass marketed. The service aspect of creating the program would dominate custom-designed software. The good aspect of selling the program to customers would dominate mass-marketed software. This also may depend on whether there is an ongoing service relationship between the seller and the buyer. The equivalent end use test is another question. The software file is equivalent to a physical copy of the software before installation, but once the software is installed, there is no physical product that does the same work as the file. This test could go either way. And the exclusive ownership again depends on the application of DRM technology.

4. *Comparison of the Tests*

Each test has some benefits and drawbacks when applied to these technologies. With one modification regarding DRM technology, the exclusive ownership test has the most benefits. DRM technology, while a useful tool, is not perfect. Under the assumption that a workaround to this technology exists or that the technology is not used for all files, the exclusive ownership test is the correct test. Without DRM technology, this test fits best with the policy framework. Under this test, the digital files that the ITC cannot regulate would not be under its authority. The test would also provide a clear and simple rule for the ITC to follow to make future decisions. Finally, this test would match what the Federal Circuit has decided in the past making it unlikely that they would overturn future decisions made using this test.

The predominant purpose test has the major issue of forcing the ITC to make distinctions between different files of the same type. This goes against the principle of creating an easy framework for the ITC to use. This test would also create the issue of having the ITC regulate digital files, an area where they have no expertise or infrastructure to make and enforce decisions. Finally, while this test does not go against the *Suprema* or

ClearCorrect decisions, it does create uncertainty which may lead to overturned decisions in the future.

The equivalent end use test also is not perfect. It leads to a scenario where the ITC would be regulating digital files it is not prepared to regulate. It is a clearer test than the predominant purpose test, but it still forces the ITC to seek out an equivalent physical product. And this too creates opportunity for the Federal Circuit to overturn ITC decisions because of the uncertainty associated with the test.

III. CONCLUSION

In conclusion, the ITC would be best suited applying the exclusive ownership test to determine what is an article and, therefore, under its authority. This test matches the capabilities that the ITC currently has to regulate trade, draws a clear line for the ITC to easily follow, and matches with decisions from the Federal Circuit. The other two tests leave room for interpretation and uncertainty and may force the ITC to regulate new and unfamiliar areas.