

TEXT MESSAGE PRICE GOUGING: A PERFECT STORM OF TACIT COLLUSION[†]

PER LARSEN*

INTRODUCTION	217
I. TEXT MESSAGE PRICING.....	218
A. <i>History of Text Message Pricing</i>	218
B. <i>Text Messaging Price Comparison</i>	220
II. TEXT MESSAGING MARKET BACKGROUND.....	223
III. COMPETITIVE, MONOPOLY, AND OLIGOPOLY MARKETS ...	225
IV. ANTITRUST LAW AND THE OLIGOPOLY PROBLEM.....	227
A. <i>The Scope of Agreement Under the Sherman Act</i>	227
B. <i>Economics-Based Approaches to Antitrust Enforcement</i>	230
V. ANTITRUST ANALYSIS OF TEXT MESSAGING.....	231
A. <i>Text Messaging Market Definition</i>	231
B. <i>An Economic Analysis of the Text Messaging Market</i>	233
1. The Text Messaging Market's Susceptibility to Collusion	234
2. Direct Economic Evidence of Collusion in the Text Messaging Market.....	238
VI. FCC REGULATION OF TEXT MESSAGE PRICING.....	241
CONCLUSION	242

INTRODUCTION

Among the revolutionary changes in personal communications over the last several decades is one that has us all twiddling our thumbs while we should be shaking our heads. Text messaging, or Short Messaging Service (SMS), has exploded in a little over a decade from an obscure feature to the most common mobile communications tool.¹ Meanwhile,

[†] This article was selected as the winner of the 2009 Silicon Flatirons Writing Competition, sponsored by Faegre & Benson LLP.

* J.D. Candidate, University of Colorado (2010) and Lead Production Editor, Journal on Telecommunications and High Technology Law. Thanks to Jason Sharman for his persistent and thorough help in editing versions of this article and Faegre & Benson for sponsoring the Silicon Flatirons Writing Competition.

1. In the fourth quarter of 2007, the number of text messages sent eclipsed phone calls for American wireless phone subscribers for the first time. Alex Mindlin, *Letting Our Fingers Do the Talking*, N.Y. TIMES, Sept. 29, 2008, at C4, available at

wireless providers have been reaping windfall profits, with predicted SMS revenues of between \$60 billion and \$80 billion worldwide in 2007.²

During this explosion of use, the normal protections of antitrust law and regulatory oversight has failed to protect consumers from overpaying for each text message they send. In particular, courts are unable to effectively deal with oligopoly markets under current antitrust law. Additionally, the wireless providers have persuaded the FCC that competition in the wireless market is effectively constraining prices and convinced consumers that text messaging is a premium service, thus averting price regulation and consumer backlash.

In Part I, this note will first analyze text message pricing to show how consumers are overcharged relative to other wireless services. Part II will examine how the text messaging market became a concentrated market with only a few national wireless carriers. Part III will provide economic background for how competition, antitrust law, and regulatory oversight should protect consumers from price gouging. Part IV will describe the inability of the traditional focus of antitrust law on evidence of conspiracy to deal effectively with oligopoly markets and explores alternative economic approaches. Part V analyzes the text messaging market under an economic approach to antitrust conspiracy liability. Finally, Part VI discusses how the FCC has not fulfilled its mission to provide consumers effective competition and efficient use of spectrum with regards to text messaging. I suggest that FCC regulation of text messaging is warranted because of the difficulties of antitrust enforcement.

I. TEXT MESSAGE PRICING

A. *History of Text Message Pricing*

The ability to send short text messages was incorporated into the technical specifications for the 2G digital Global System for Mobile communications (GSM) standard, with commercial services launched using GSM in 1993. Initially, providers did not predict that text messaging would catch on as a way for users to send messages to each other and had not made networks interoperable for text messaging, nor put in place billing mechanisms that would prevent fraud.³

In the US, interoperability between carriers was not fully achieved

<http://www.nytimes.com/2008/09/29/technology/29drill.html>.

2. Craig Kuhl, *SMS Jackpot*, WIRELESSWEEK, Oct. 13, 2007, <http://www.wirelessweek.com/Article-SMS-Growth-next-gen-apps-services.aspx>.

3. SMS History, funSMS.net, http://www.funsms.net/sms_history.htm; History of SMS, 42IT, http://www.42it.eu/Mobile_Systems/SMS/History_of_SMS/.

until 2002, at which point text messaging was priced at between 5 and 10 cents per message on a pay-per-use (PPU) basis.⁴ By 2005, text messages were commonly priced at 10 cents per message.⁵ In October of 2006, Sprint raised the PPU price to 15 cents.⁶ By June of 2007, AT&T, T-Mobile, and Verizon matched the higher price.⁷ In October of 2007, Sprint again was the first wireless provider to raise the PPU price, this time to 20 cents.⁸ In March of 2008, both Verizon and AT&T followed suit.⁹ In August of 2008, T-Mobile raised its PPU price to 20 cents to match the other three nation-wide providers.¹⁰

These text message price increases did not escape the attention of legislators worried about the anticompetitive effects of consolidation in the wireless market. On September 9, 2008, Herb Kohl (D-Wis.), the Senate Antitrust Committee Chairman, sent a letter to executives of the top four wireless companies expressing concern about recent price increases for text messages.¹¹ In the letter, Senator Kohl directly questioned whether increased rates were “a reflection of a decrease in competition, and an increase in market power.”¹² Additionally, Senator Kohl repeated a contention of some industry experts that “these increased rates do not appear to be justified by any increases in the costs associated with text messaging services.”¹³ While not directly alleging collusion in text message pricing, Senator Kohl noted that “it appears that each of [the top four wireless] companies has changed the price for text messaging at nearly the same time, with identical price increases. This conduct is hardly consistent with the vigorous price competition we hope to see in a competitive marketplace.”¹⁴ In the letter, Senator Kohl asks for a comparison of prices charged for text messages and other services, as well as an explanation of how each particular carrier’s price structure is

4. Annual Report & Analysis of Competitive Market Conditions With Respect to Commercial Mobile Services, *Eighth Report*, FCC 03-150, WT Dkt. No. 02-379, ¶¶ 144, 146 (Jul. 14, 2003) [hereinafter *Eighth CMRS Report*].

5. Press Release, Senator Herb Kohl, Kohl Calls on Cell Phone Companies to Justify Skyrocketing Texting Rates (Sept. 9, 2008), available at <http://kohl.senate.gov> (follow “Newsroom” hyperlink).

6. *Cell Phone Text Messaging Rate Increases and the State of Competition in the Wireless Market: Hearing Before the Subcomm. on Antitrust, Competition Policy and Consumer Rights of the S. Comm. on the Judiciary*, 111th Cong. (2009) (prepared statement of Randal Milch, Executive Vice President and General Counsel, Verizon Wireless) [hereinafter *Wireless Competition Hearing*].

7. Kohl, *supra* note 5.

8. *Id.*

9. *Id.*

10. *Id.*

11. *Id.*

12. *Id.*

13. *Id.*

14. *Id.*

different from their main competitors.¹⁵ In part prompted by the inquiry of Senator Kohl, twenty class action lawsuits have been filed alleging price fixing for text messages.¹⁶

B. Text Messaging Price Comparison

A good starting point for determining if the price of text messaging is reasonable is to compare the price of text message service with voice service for wireless phones. To compare text messaging and voice service, I first normalize the data transferred in a voice call and a text message to a common unit of data, then compare the price of voice and text messaging service for the common unit of data.

A modern digital wireless phone does not transmit voice signals continuously; instead, small chunks of voice data are recorded, digitized, and compressed. For example, a phone might process twenty millisecond chunks of voice data at a time and then transmit them separately in packets. A conversation consists of a constant flow of packets, each of which is digitized, compressed, transmitted, and decoded in real-time, so a user doesn't notice their phone call is chopped up into thousands of tiny fragments.

The amount of data in each packet is determined by the frequency range in the caller's voice that is transmitted and the resolution of the digitized signal. Typically, to provide acceptable voice quality, a minimum cutoff frequency (the highest frequency of the caller's voice that is transmitted) of around 4 KHz is required, and because the sampling frequency must be twice the cutoff frequency, the sampling frequency is a minimum of about 8 KHz. A sampling resolution of 8 bits captures enough of the signal to reproduce an acceptable voice transmission. Thus, with a sampling frequency of 8 KHz and a resolution of 8 bits, the sampled digital signal would have a data rate of 64 kbps (kilobits per second). In a wireless phone, this 64-kbps signal is then compressed dramatically and transmitted at a variable rate depending on the requirements of the caller's voice. Using an advanced compression algorithm such as coded excited linear prediction (CELP), transmission rates will vary between 1.2 kbps and 14.4 kbps with an average between 4 kbps and 7 kbps depending on desired voice quality.¹⁷

15. *Id.*

16. Randall Stross, *What Carriers Aren't Eager to Tell You About Texting*, N.Y. TIMES, Dec. 26, 2008, at BU3, available at <http://www.nytimes.com/2008/12/28/business/28digi.html?ref=technology>. Recently sixteen actions were transferred to the Northern District of Illinois for pre-trial proceedings. *In re Text Messaging Antitrust Litigation*, 588 F. Supp. 2d 1372, 1373 (J.P.M.L. 2008).

17. LAWRENCE HARTE, RICHARD LEVINE & ROMAN KIKTA, 3G WIRELESS DEMYSTIFIED 211 (2002).

In comparison, a standard SMS message is limited to 140 bytes (160 7-bit characters). Thus, to transmit a single text message a cellular phone must send slightly more than one quarter of the amount of data contained in the average second of voice transmission. Also, in terms of the cellular phone infrastructure, a text message is much less of a burden because it is not time-critical. In fact, cellular providers typically do not guarantee the delivery of text messages at all, much less within a given period of time or real-time as is the requirement for voice transmission.¹⁸

Determining the cost of voice service is complicated by differentiated calling plans offered by wireless providers, including some plans with unlimited minutes and family plans that combine minutes across several individuals.¹⁹ While price differentiation means that customers pay different rates for voice service based on quantity of service purchased, the average revenue per minute (RPM) for the wireless industry provides a good baseline for the price charged to customers of voice data transmission.²⁰ In 2007, the average industry wide voice RPM was 5 cents.²¹ Similarly, wireless phone providers offer differentiated plans for text messaging.²² These options include PPU, a fixed monthly fee for a limited number of text messages, or a higher fee for unlimited text messages per month.²³ In 2007, the FCC estimated the average industry wide revenue per text message (RPT), taking into account the differentiated service plans, was 2.5 cents.²⁴

Figure 1 compares per-kilobit revenue for voice service with per-kilobit revenue for a PPU price of 20 cents and for 2007 average wireless industry RPT.²⁵ Figure 1 assumes a text message using the maximum of 160 characters, which is very rarely the case. If the length of an average text message were factored in, the difference in revenue would increase by at least a factor of two, possibly more.²⁶ Compared to the average revenue for voice service, the revenue for a text message priced at 20 cents is over 800 times more per kilobyte, even assuming a user

18. *See, e.g.*, AT&T, Wireless Data Service Terms and Conditions, <http://www.wireless.att.com/learn/articles-resources/wireless-terms.jsp> (follow “Feature Terms” hyperlink).

19. Annual Report & Analysis of Competitive Market Conditions With Respect to Commercial Mobile Services, *Thirteenth Report*, DA 09-54, WT Dkt. No. 08-27, ¶¶ 111–12 (Jan. 15, 2009) [hereinafter *Thirteenth CMRS Report*].

20. *Id.* ¶ 192.

21. *Id.* ¶ 193 tbl.12.

22. *Id.* ¶ 119.

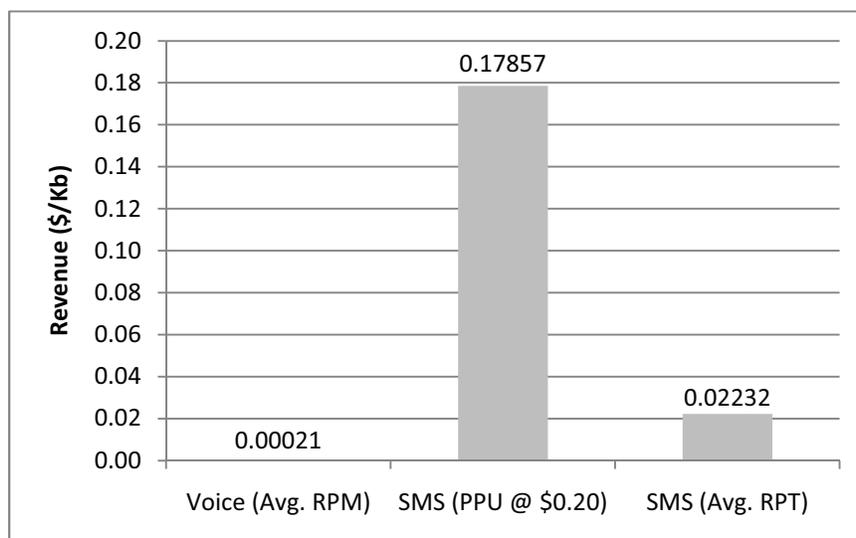
23. *Id.*

24. *Id.* ¶ 194 tbl.13.

25. *Thirteenth CMRS Report*, supra note 19, tbls. 12–13. Average voice RPM assumes a low-end average voice bandwidth of 4 Kbps.

26. A non-scientific study of 50 recent messages sent from my iPhone resulted in an average of approximately 65 characters per message (users without a full keyboard will tend to use fewer characters).

Figure 1: Text Message Price Comparison (per Kb)



maximizes the message length. Even the average revenue for text messages is over 100 times more per kilobyte than the average revenue for voice service.

Comparing the price of text messaging to other data services also shows that consumers are overcharged for texting. For example, a Verizon Wireless customer pays \$1.99 per megabyte for data services if they do not have an unlimited data plan.²⁷ This is close to 90 times cheaper than the PPU price of 20 cents even if the sender used the entire 160 character limit for each message. Compared to Verizon's text message plans, per megabyte pricing of data is also a bargain. Verizon charges \$1.99 for the equivalent of 7,489 text messages if those bytes are "data," but \$5 for only 250 text messages if those bytes are considered "text."²⁸ Moreover, during the same time period that text message PPU pricing has been increasing, pricing for mobile data has been going down dramatically.²⁹

This comparison also raises a few questions of its own. What is the difference between text messages and data? How can a provider charge more for bytes because they are "text" bytes instead of "data" bytes? How

27. See Verizon Wireless, Pricing for Data Usage, <http://www.verizonwireless.com/b2c/splash/Megabyte.jsp>.

28. See *id.*; Verizon Wireless, News Center, <http://news.vzw.com/news/2007/03/pr2007-03-01.html>.

29. For example, in 2003, AT&T charged \$7.99 per month for one MB of data, and currently charges \$60 for 5 GB per month, or 12 cents per MB. *Eighth CMRS Report*, *supra* note 4, ¶ 136 n.458; AT&T, PDAs and Smartphones - Data Only, <http://www.wireless.att.com/cell-phone-service/cell-phone-plans/pda-personal-plans.jsp>.

can a provider have a separate charge, as does AT&T, for text messages over and on top of an unlimited data plan?³⁰

It turns out that the difference between “data” and “text” may be that “text” costs even less for the providers to transmit than other data. Text messages are typically sent on what is called the “control channel,” which carries control information between a handset and a base station.³¹ Thus, in reality, while charging a premium for the service, sending a text message costs the wireless provider almost nothing.³²

To illustrate the exorbitant cost of texting, various commentators have calculated that the price of bandwidth for text messaging is 15 to 60 million times more expensive than bandwidth purchased from an Internet service provider, 200 times more expensive than using the United States Postal Service to hand-deliver a written message, and four times more expensive than receiving scientific data from the Hubble space telescope.³³

II. TEXT MESSAGING MARKET BACKGROUND

Initially, the FCC believed that the wireless telephony market was a natural monopoly, but through the rulemaking process eventually adopted a duopoly system by issuing two competing licenses in each service area.³⁴ The duopoly system showed the promise of wireless telephone communications, but service was expensive and fragmented.³⁵ The FCC brought more competition to the market by allocating additional spectrum to wireless technology through a rulemaking process begun in 1990.³⁶ As additional entry in the market was facilitated by the new licenses, merger activity was at the same time stitching together the new licenses into larger networks.³⁷ By 2001, mergers had consolidated 85% of the wireless market share in six national wireless providers.³⁸ Before 2001, the FCC regulated competition in the wireless industry with “spectrum caps” that limited the amount of spectrum any one

30. For example, text messaging is not included in the unlimited data plans available with the iPhone. AT&T Wireless, iPhone 3G What You Need to Know, <http://www.wireless.att.com/cell-phone-service/specials/iphone-info.jsp>.

31. Stross, *supra* note 16.

32. *Id.*

33. See Sam Garfield, *The True Price of SMS Messages*, A GTHING SCIENCE PROJECT, Jan. 28, 2008, <http://gthing.net/the-true-price-of-sms-messages>; Space Scientist Says Texting is Four Times More Expensive Than Receiving Scientific Data from Space, Physorg.com, May 12, 2008, <http://www.physorg.com/news129793047.html>.

34. Thomas W. Hazlett, *Is Federal Preemption Efficient in Cellular Phone Regulation?*, 56 FED. COMM. L.J. 155, 160–61 (2003).

35. *Id.* at 163.

36. *Id.*

37. *Id.* at 168.

38. *Id.*

provider could have in a particular geographic area.³⁹ In 2001, the FCC found that there was “meaningful economic competition” in urban wireless markets and decided to “sunset” the spectrum caps by 2003.⁴⁰ The FCC decided “that we should move from the use of inflexible spectrum aggregation limits to case-by-case review of spectrum aggregation and enforcement of other safeguards applicable to such carriers based on evidence of misconduct.”⁴¹

In 1993, when Congress created a statutory category for wireless services to promote consistent regulation, it established the promotion of competition as a fundamental goal of regulatory policy.⁴² In the FCC’s Thirteenth Annual Report and Analysis of Competitive Market Conditions With Respect to Commercial Mobile Services, the FCC concluded that “there is effective competition in the [commercial wireless communications] market.”⁴³ The FCC does not regulate rates of wireless providers because it found that “effective competition” was providing low prices to US wireless consumers.⁴⁴

To support a finding of effective competition, the FCC noted that 95% of the US population is able to choose from at least three mobile carriers and more than 60% of the U.S. population is served by five or more carriers.⁴⁵ However, one of the primary benefits of a wireless phone is the ability to use your own phone when you travel, preferably using your own carrier’s network to prevent roaming charges. At the end of 2007, only four wireless carriers were considered to provide “nation-wide” coverage.⁴⁶ In effect, nation-wide wireless service is an oligopoly⁴⁷ market with the four largest wireless carriers serving close to 85% of subscribers.⁴⁸

39. See 2000 Biennial Regulatory Review Spectrum Aggregation Limits For Commercial Mobile Radio Services, *Report & Order*, 16 FCC Rcd. 22,668, ¶¶ 1, 3 (2001).

40. *Id.* ¶¶ 1, 5.

41. *Id.* ¶ 6.

42. *Thirteenth CMRS Report*, *supra* note 19, ¶ 3.

43. *Id.* ¶ 1.

44. States may file a petition to regulate wireless service rates if they can demonstrate that “conditions in the state for commercial mobile radio services do not adequately protect subscribers to such services from unjust and unreasonable rates.” 47 C.F.R. § 20.13 (2008).

45. *Thirteenth CMRS Report*, *supra* note 19, ¶ 2.

46. *Id.* ¶ 14.

47. In contrast to a monopoly, where one firm controls output in the relevant market, an oligopoly refers to a small number of firms that produce either all or enough output in the relevant market to affect price. ROBERT PITOFSKY, HARVEY J. GOLDSCHMID & DIANE P. WOOD, *TRADE REGULATION* 490 (5th ed. 2003).

48. After the Alltel-Verizon merger, adding Alltel data to the market share of Verizon. *Thirteenth CMRS Report*, *supra* note 19, chart 1.

III. COMPETITIVE, MONOPOLY, AND OLIGOPOLY MARKETS

In a perfectly competitive market, price equals marginal cost.⁴⁹ As each firm in the perfectly competitive market strives to maximize profits in the face of competition, each firm lowers its price and increases its output until the market price is equal to the marginal cost of an additional unit.⁵⁰ In the perfectly competitive market, each firm is a price taker, meaning that it faces a perfectly elastic demand curve; if it raises its price the competing firms take all its sales.⁵¹ In contrast, a monopolist is not a price taker because no other firms are competing, and he will set price to maximize profit.⁵² In general, this means the monopolist will raise the price above the competitive level, and correspondingly reduce output and thus reduce the cost of producing the goods until his profit is maximized.⁵³

Monopoly pricing and corresponding output reduction results in two types of inefficiencies, deadweight loss and wealth transfer to the monopolist.⁵⁴ Deadweight loss refers to loss of value to the overall economy of the product at the competitive price, resulting in substitutions of inferior or costlier alternatives.⁵⁵ Wealth transfer to the monopolist results in both economic inefficiencies and a higher profit to the monopolist than is warranted based on the real economic value of its goods or services to society.⁵⁶

While competition in a free market is the best way to ensure low cost goods and services and a wide range of choice for consumers, free markets without oversight may for a variety of reasons result in monopoly. For example, a market may be a “natural monopoly,” which occurs when the market is served at lower cost by one firm instead of multiple firms.⁵⁷ Traditional telephone service was long considered a natural monopoly because once the majority of the infrastructure is built the cost of adding an additional customer is small, and therefore the marginal cost continues to decline over the entire market.⁵⁸ Alternately,

49. W. KIP VISCUSI, JOSEPH E. HARRINGTON, JR. & JOHN M. VERNON, *ECONOMICS OF REGULATION AND ANTITRUST* 79 (4th ed. 2005).

50. George A. Hay, *Oligopoly, Shared Monopoly, and Antitrust Law*, 67 *CORNELL L. REV.* 439, 443 (1982).

51. *Id.*

52. RICHARD POSNER, *ANTITRUST LAW* 12 (2d ed. 2001).

53. *Id.* at 11.

54. *Id.* at 12–13.

55. *Id.* at 12.

56. Pursuit of monopoly profits leads to misallocation of resources into “efforts by sellers to monopolize and by consumers to avoid being charged monopoly prices.” *Id.* at 13–14.

57. Richard A. Posner, *Natural Monopoly and its Regulation*, 21 *STAN. L. REV.* 548, 548 (1969).

58. JONATHAN E. NUECHTERLEIN & PHILIP J. WEISER, *DIGITAL CROSSROADS* 13 (2005) [hereinafter *DIGITAL CROSSROADS*].

several firms can form a cartel, agreeing that instead of competing, they will use their combined market power to achieve monopoly pricing for the cartel members.⁵⁹ To effectively maintain monopoly pricing, a formal cartel needs the ability to detect cartel members selling below the monopoly price (cheating), and sanction them through economic or other means.

While a monopolist controls output and pricing itself because it is the only seller in a relevant market, an oligopoly is a small number of sellers who dominate a market.⁶⁰ Collusion among oligopolists can achieve monopoly pricing by leveraging the combined market power of the sellers as a group into an effective monopoly.⁶¹ While collusion might occur in an unconcentrated market, oligopoly markets facilitate collusion because it is easier to coordinate among a smaller group of sellers to maintain monopoly pricing.⁶² Conversely, with a large number of sellers, maintaining coordinated action is difficult because the firms attempting to control pricing using a cartel will not be able to effectively police many firms from cheating on the cartel.

For at least fifty years, economists and antitrust scholars have recognized that, in an oligopoly market, sellers can also coordinate an agreement to raise prices above a competitive level through “tacit collusion,”⁶³ using market signals in the place of direct communication to coordinate price controls.⁶⁴ Tacit collusion in an oligopoly market is both more durable and more difficult to detect than explicit price fixing agreements.⁶⁵ To maintain an anticompetitive price, an oligopoly must both establish a higher price and enforce adherence to the higher price in the face of the pressure on each oligopolist to increase their short term profits by cheating.⁶⁶ Even highly concentrated oligopolies may find it difficult to enforce a formal agreement where structural conditions create

59. POSNER, *supra* note 52, at 14.

60. PITOFSKY ET AL., *supra* note 47, at 490.

61. *Id.*

62. Thomas A. Piraino, Jr., *Regulating Oligopoly Conduct Under the Antitrust Laws*, 89 MINN. L. REV. 9, 10 (2004).

63. I adopt Judge Posner’s term “tacit collusion.” Synonymous terms include “conscious parallelism,” or “oligopolistic interdependence.” POSNER, *supra* note 52, at 52–53.

64. See, e.g., Donald F. Turner, *The Definition of Agreement Under the Sherman Act: Conscious Parallelism and Refusals to Deal*, 75 HARV. L. REV. 655, 661 (1962) (“[E]conomic theory has suggested that this kind of noncompetitive behavior might well arise in an ‘oligopoly’ situation (i.e., where sellers are ‘few’) without overt communication or agreement, but solely through a rational calculation by each seller of what the consequences of his price decision would be, taking into account the probable or virtually certain reactions of his competitors.”); POSNER, *supra* note 52, at 52 (“[I]n some circumstances competing sellers might be able to coordinate their pricing without conspiring in the usual sense of the term—that is, without any overt or detectable acts of communication.”).

65. Piraino, *supra* note 62, at 30.

66. Hay, *supra* note 50, at 445.

a powerful incentive to cheat.⁶⁷ However, in cartels without a formal agreement, repeated iterations of establishing a consensus price through market signals give oligopolists confidence in each other and therefore tacit arrangements do not require constant policing on the part of the oligopolists to prevent cheating.⁶⁸ Additionally, tacit collusion is more difficult to detect and prosecute because there is no direct evidence that a monopoly price has been fixed.⁶⁹

The primary tools the government has to prevent the anticompetitive effects of monopoly pricing are regulation and antitrust law. Antitrust law counters monopolization by attempting to structurally enforce competitive markets, thereby resulting in competitive pricing. Regulation, in contrast, may either attempt to promote competitive markets through enforcement of structural requirements,⁷⁰ or directly set prices to a level deemed competitive through rate regulation.⁷¹

IV. ANTITRUST LAW AND THE OLIGOPOLY PROBLEM

Against the backdrop of increasing industry concentration and market power wielded by trusts, Congress passed the Sherman Act as a remedial statute, arming antitrust enforcers with federal statutory law to combat restraints of trade.⁷² Congress broke the Sherman Act into two sections, one targeting collusive practices and the other abuse of monopoly power by a single firm. To provide authority to fight collusion among competitors, the “supreme evil of antitrust,”⁷³ Section 1 prohibits every “contract, combination . . . or conspiracy, in restraint of trade”⁷⁴ While unenforceable under common law, the Sherman Act affirmatively rendered contracts in restraint of trade illegal.⁷⁵

A. The Scope of Agreement Under the Sherman Act

The intentional brevity of the Sherman Act left the scope of what constitutes an illegal agreement up to the flexible interpretation of the courts.⁷⁶ In a line of cases punctuated by *United States v. Socony-Vacuum*

67. Jonathan B. Baker, *Two Sherman Act Section 1 Dilemmas: Parallel Pricing, the Oligopoly Problem, and Contemporary Economic Theory*, 38 ANTITRUST BULL. 143, 151 (1993).

68. Piraino, *supra* note 62, at 30.

69. *Id.*

70. For example, interconnection requirements. See DIGITAL CROSSROADS, *supra* note 58, at 70.

71. For example, telephone rate regulation as a public utility. See *id.* at 46.

72. PITOFSKY ET AL., *supra* note 47, at 35–51.

73. Verizon Commc'ns Inc. v. Trinko, 540 U.S. 398, 408 (2004).

74. 15 U.S.C. § 1 (2006).

75. U.S. v. Addyston Pipe & Steel Co., 85 F. 271, 279 (6th Cir. 1898), *aff'd*, 175 U.S. 211 (1899).

76. PITOFSKY ET AL., *supra* note 47, at 51.

Oil Co., the Supreme Court established the principle that price-fixing agreements between competitors are per se illegal under the Sherman Act.⁷⁷ Hand in hand with the initial focus of Section 1 enforcement on formal cartels and horizontal price fixing was an evidentiary dependence on finding a conspiracy between the parties.⁷⁸ This focus was a logical extension of the courts' criminal conspiracy experience and adaptation from other areas of law to finding evidentiary facts related to the parties.⁷⁹ Section 1 enforcement has been largely effective in eliminating formal cartels in restraint of trade.⁸⁰ However, the focus on evidence of conspiracy and lack of economic analysis left the federal courts ill-equipped to deal with the paradox of noncompetitive prices arising from apparently independent business behavior that is a result of tacit collusion.

One of the first Section 1 cases to reach the Supreme Court without an explicit horizontal agreement was *Interstate Circuit, Inc. v. United States*, in which the managers of two chains of first run theaters sent identical letters to eight film distributors demanding that the distributors only release new movies to subsequent run theaters operating under certain price conditions.⁸¹ The eight distributors imposed the conditions on subsequent run theaters in several cities served by the chains of first run theaters.⁸²

While the government presented no direct evidence of agreements between the distributors, the Supreme Court held that the separate agreements violated Section 1 as an implicit agreement in restraint of trade.⁸³ In its decision, the Court recognized that an unlawful agreement could occur without express collusion.⁸⁴ The letters from the first run theaters were an invitation to collude, and "[i]t was enough that, knowing that concerted action was contemplated and invited, the distributors gave their adherence to the scheme and participated in it."⁸⁵ Therefore, because the chains of first-run theaters had facilitated the collusion, *Interstate Circuit* was not a pure tacit collusion case.⁸⁶

77. 310 U.S. 150, 218 (1940). See also *Addyston Pipe*, 85 F. at 301-02; *Standard Oil Co. of New Jersey v. U.S.*, 221 U.S. 1, 50-52 (1911); *U.S. v. Trenton Potteries Co.*, 273 U.S. 392, 396 (1927).

78. POSNER, *supra* note 52, at 53; F.M. SCHERER & DAVID ROSS, *INDUSTRIAL MARKET STRUCTURE AND ECONOMIC PERFORMANCE* 339 (1990).

79. POSNER, *supra* note 52, at 53.

80. *Id.* at 51-52.

81. 306 U.S. 208, 215-18 (1939).

82. *Id.* at 218-19.

83. *Id.*

84. *Id.* at 227 ("It is elementary that an unlawful conspiracy may be and often is formed without simultaneous action or agreement on the part of the conspirators.").

85. *Id.* at 226.

86. SCHERER & ROSS, *supra* note 78, at 340.

A few years later, the Supreme Court appeared to support the idea that pure tacit collusion could provide the basis for a conspiracy under the Sherman Act. In *American Tobacco Co. v. United States*, the Court upheld a jury verdict of a conspiracy to restrain trade and monopolize by three tobacco companies that dominated the cigarette manufacturing market based on circumstantial and economic evidence.⁸⁷ The evidence cited by the Court as showing that the tobacco companies had conspired to fix prices and exclude competition in the cigarette market included identical list and discount prices, and lock-step price increases of the leading cigarette brands from each manufacturer.⁸⁸ The Court repeated that “[n]o formal agreement is necessary to constitute an unlawful conspiracy.”⁸⁹ The evidence of concerted action taken by the cigarette manufacturers provided sufficient proof to infer a conspiracy under the Sherman Act.⁹⁰

However, only a few years later the Supreme Court retreated from finding Section 1 liability based on tacit collusion. In a case reminiscent of *Interstate Circuit*, nine film distributors all in turn refused to grant first run exhibition rights to a new theater located in a suburban shopping center.⁹¹ The Court distinguished between independent business decisions and agreement, holding that if the conduct of the defendants could be a result of legitimate independent business decisions, no Section 1 claim could be maintained.⁹²

Despite the influence of the “Chicago School” of economics on antitrust law, the Supreme Court has maintained its emphasis on evidence of an agreement in tacit collusion cases. The dichotomy between the Court’s approaches with respect to facilitating practices and tacit collusion illustrates the Court’s continuing reliance on evidence of an agreement in Section 1 cases.

In *United States v. Container Corp. of America*, the Court held that exchange of information, as a facilitating practice of collusion, could constitute a Section 1 violation.⁹³ The defendants in *Container Corp.* provided information to each other regarding recent prices charged or quoted for orders of corrugated containers.⁹⁴ Although not expressly

87. 328 U.S. 781, 798–804 (1946).

88. *Id.* at 805.

89. *Id.* at 809.

90. *Id.*

91. *Theatre Enters., Inc. v. Paramount Film Distrib. Corp.*, 346 U.S. 537, 539 (1954).

92. *Id.* at 541 (“[T]his Court has never held that proof of parallel business behavior conclusively establishes agreement or, phrased differently, that such behavior itself constitutes a Sherman Act offense. Circumstantial evidence of consciously parallel behavior may have made heavy inroads into the traditional judicial attitude toward conspiracy; but ‘conscious parallelism’ has not yet read conspiracy out of the Sherman Act entirely.” (citation omitted)).

93. 393 U.S. 333, 335 (1969).

94. *Id.*

finding such exchanges of information per se unlawful, the Court reasoned that “[t]he exchange of price data tends toward price uniformity.”⁹⁵ In *United States v. United States Gypsum Co.*, the Court clarified that “rule of reason” analysis applies for exchange of price data and other information between competitors.⁹⁶ Thus, where the plaintiff pleads a claim based on a facilitating practice, the Court will conduct a rule of reason analysis to determine if the practice had the purpose or effect of fixing or stabilizing prices.⁹⁷

In contrast, the Court has developed a high standard for pleading an antitrust conspiracy through parallel conduct that requires a plaintiff to produce evidence showing that the defendant’s conduct is inconsistent with independent business behavior.⁹⁸ This requirement stems from reluctance by the Court to proscribe independent action or interfere with the rights of the business community.⁹⁹ Recently, the Supreme Court has reaffirmed its stand against allowing tacit collusion to support a Sherman Act offense where parallel behavior may be explained by rational business strategy.¹⁰⁰

Thus, the current state of Supreme Court jurisprudence acknowledges that tacit collusion can be a conspiracy in violation of Section 1, but requires a court to tease out so-called “plus factors” that show that the alleged anticompetitive behavior could not be a result of independent behavior. It is not surprising that this fine distinction has led to a confused series of opinions when lower courts attempt to interpret what evidence would differentiate a tacit agreement from independent conduct.¹⁰¹

B. *Economics-Based Approaches to Antitrust Enforcement*

The Supreme Court’s lack of success in developing workable guidelines for antitrust liability in oligopoly markets rests in part on a failure to link antitrust culpability to an economic model of oligopoly behavior.¹⁰² Based on more refined economic analysis of oligopoly markets including the influence of game theory, several authorities have proposed economic approaches that distinguish culpable behavior of

95. *Id.* at 337.

96. 438 U.S. 422, 441 (1978).

97. *Id.* at 435.

98. *Monsanto Co. v. Spray-Rite Serv. Corp.*, 465 U.S. 752, 764 (1984).

99. *See id.* at 761.

100. *See Bell Atl. Corp. v. Twombly*, 550 U.S. 544, 554 (2007) (“The inadequacy of showing parallel conduct or interdependence, without more, mirrors the ambiguity of the behavior: consistent with conspiracy, but just as much in line with a wide swath of rational and competitive business strategy unilaterally prompted by common perceptions of the market.”).

101. Piraino, *supra* note 62, at 26; Hay, *supra* note 50, at 465.

102. Hay, *supra* note 50, at 465.

oligopolists.

The economic approach to collusion proposed by Judge Richard Posner makes no distinction between a formal cartel and a purely tacit meeting of the minds, and attempts to detect and prove collusion based on economic factors and evidence.¹⁰³ Judge Posner's approach examines the factors that affect the costs and benefits of collusion to determine a market's susceptibility to collusion, and therefore the amount of communication necessary for effective collusion.¹⁰⁴

In encouraging adoption of an economics-based approach to antitrust enforcement, Judge Posner points to empirical evidence showing that many Justice Department actions have targeted harmless attempts at price fixing which did not raise consumer prices to a level that would allow a private plaintiff to prove any damages.¹⁰⁵ Thus, using a "cops and robbers" approach is "most successful against those conspiracies that are least likely to succeed."¹⁰⁶ Judge Posner argues that his purely economic approach goes "beyond the cops and robbers approach to price fixing and, in doing so, incidentally [solves] the problem of how to deter purely tacit collusion."¹⁰⁷

V. ANTITRUST ANALYSIS OF TEXT MESSAGING

While the above analysis shows that pricing of text messaging services does not appear to reflect vigorous competition among wireless providers, antitrust law requires that a plaintiff prove that price gouging is a result of anticompetitive behavior. We may never know whether executives in the wireless oligopoly met in a smoke filled room and agreed to raise text message rates. However, in this section I analyze economic factors that would indicate whether text message price gouging is a result of competitive market forces or anticompetitive practices. Even without a formal agreement, if text message price gouging is a result of tacit collusion among wireless providers, it should be recognized as an illegal agreement in restraint of trade under Section 1 of the Sherman Act.

A. *Text Messaging Market Definition*

The ultimate goal of antitrust enforcement is to prevent the unlawful exercise of market power.¹⁰⁸ Defining the relevant market

103. POSNER, *supra* note 52, at 60, 69.

104. *Id.*

105. *Id.* at 54 n.3.

106. ROGER D. BLAIR & DAVID L. KASERMAN, ANTITRUST ECONOMICS 201 (1985).

107. POSNER, *supra* note 52, at 61.

108. James A. Keyte, *Market Definition and Differentiated Products: The Need for a Workable Standard*, 63 ANTITRUST L.J. 697, 698 (1995).

provides the analytical framework to calculate market power, and therefore is fundamental to determining if business conduct is an abuse of market power and harmful to consumers.¹⁰⁹ To define the relevant market, “the court must determine which products compete with the defendant’s product and thus limit or prevent the exercise of market power.”¹¹⁰

Typically markets are defined by the principle of the hypothetical monopoly, which states that a market should be defined as the smallest group of products that could be profitably restricted by a monopolist.¹¹¹ For these markets, the small but significant and non-transitory increase in price (SSNIP) test is used to measure market power through elasticity of demand.¹¹²

However, telecommunications markets are composed of complementary services that are not consumed independently.¹¹³ For these types of markets, the conventional market definition tests do not work because the elasticity of demand for the component services cannot be separated.¹¹⁴ Thus, the SSNIP test will produce more narrowly defined markets than necessary because the individual elasticity of demand is lower (more inelastic) for each component than the overall bundle of services. For example, most consumers would not switch phone plans because of a SSNIP in the price of text messaging alone, if the cost of complementary services remains equal between carriers. Additionally, the typical two-year contracts that wireless carriers require consumers to sign complicates the elasticity of demand measurements due to a SSNIP in the price of text messaging. While consumers may be able to avoid early termination fees because of an increase in text message pricing, this likely is not clearly understood by many consumers and consumers will be reluctant to switch providers if they might face additional charges for doing so in the middle of their contracts.¹¹⁵

Because consumers buy a bundle of services, different markups for different services can be misleading indicators of market power.¹¹⁶ Wireless providers selling bundled services will increase the markup on

109. *Id.* at 697.

110. JOSEPH P. BAUER & WILLIAM H. PAGE, KINTNER FEDERAL ANTITRUST LAW § 10.1 (2d ed. 2002).

111. U.S. DEPARTMENT OF JUSTICE & FEDERAL TRADE COMMISSION, 1992 HORIZONTAL MERGER GUIDELINES § 1.11, 57 Fed. Reg. 41,552 (1992).

112. Jordi Gual, *Market Definition in the Telecoms Industry*, in THE ECONOMICS OF ANTITRUST AND REGULATION IN TELECOMMUNICATIONS 46, 49 (Pierre-André Buigues & Patrick Rey eds., 2004).

113. *Id.* at 59.

114. *Id.*

115. *See, e.g.*, Sergiu Gatlan, Verizon Increases SMS Rates, SOFTPEDIA, <http://news.softpedia.com/news/Verizon-Increases-SMS-Rates-44479.shtml>.

116. Gual, *supra* note 112, at 60.

those services facing less elasticity of demand.¹¹⁷ Therefore, a high markup alone in one component of bundled services does not necessarily indicate an abuse of market power.¹¹⁸

However, credible evidence that the price of a particular service could be raised above the competitive level may imply that the service is a relevant product market for antitrust analysis.¹¹⁹ In the context of competing local exchange carriers, the FCC provided the example, “if the price/cost ratio for a particular interexchange service is four times that of the price/cost ratio for all other interexchange services, that may constitute credible evidence of a lack of competitive performance.”¹²⁰ As described above, text message pricing exceeds other wireless services by factors in the range of fifty to several hundred. Therefore, because the text messaging market shows strong evidence of a lack of competitive performance, it should be examined separately from other wireless services for the purpose of antitrust analysis.

Additionally, if text messaging is priced at a monopoly level, some consumers will shift to alternatives with higher costs to society. For example, if a consumer does not want to pay the monopoly price for text messaging, they can use voice communication only. This consumer will waste more of their time in communication and potentially tie up more spectrum than necessary, both costs to society. Thus, monopoly pricing of text messaging results in deadweight loss regardless of competition in wireless services overall.

B. An Economic Analysis of the Text Messaging Market

Using the economic approach suggested by Judge Posner to police tacit collusion, efforts at enforcement would follow a two step analysis.¹²¹ First, identify whether the market is susceptible to collusive practices. Examining the market conditions to determine if they are favorable to collusion allows evaluation of ambiguous conduct in context.¹²² Also, market analysis of the benefits and costs of colluding show how specific economic symptoms can indicate effective collusion.¹²³ Second, determine if economic evidence shows that collusive pricing has actually occurred.¹²⁴

117. *Id.*

118. *Id.*

119. Regulatory Treatment of LEC Provision of Interexchange Services Originating in the LEC's Local Exchange Area & Policy and Rules Concerning the Interstate, Interexchange Marketplace, *Second Report & Order*, 12 FCC Rcd. 15,756, 15,783 (1997).

120. *Id.* at n.123.

121. POSNER, *supra* note 52, at 69.

122. *Id.*

123. *Id.* at 61.

124. *Id.* at 69. The second step could be analogized to the Supreme Court's “plus factor”

1. The Text Messaging Market's Susceptibility to Collusion

Judge Posner suggests a list of seventeen factors used to determine if the market is favorable to collusion. I have grouped Judge Posner's seventeen factors into roughly six categories: market concentration, elasticity of demand, barriers to market entry, product characteristics, price information, and antitrust history of the market.¹²⁵

(1) *Market concentration.* Two factors of market concentration facilitate collusion; a concentrated market on the selling side and an unconcentrated market on the buying side.¹²⁶ The text messaging market is characterized by both of these factors.¹²⁷

On the selling side, wireless service is a concentrated market that should raise a presumptive danger of collusion in the minds of economists and antitrust enforcers. Judge Posner points to widely varying estimates of what level of market concentration would begin to worry economists, with some economists starting to worry with a four firm market share of 45% and others not considering the market highly susceptible to collusion until the four firm market share is 70-80%.¹²⁸ While this range may be large, the largest four wireless carriers had a market share of over 85% even before the merger of Alltel and Verizon, therefore likely raising fears of collusion in the minds of most economists.

Similarly, by Justice Department merger standards the wireless market is highly concentrated. The Herfindahl-Hirschman Index (HHI) is a measure of market concentration adopted by the Justice Department and the FTC.¹²⁹ The HHI is calculated by squaring the market shares of each firm, summing the squares, and multiplying by 100.¹³⁰ Thus, the HHI varies from almost zero in a very atomized market to 10,000 in a perfectly monopolized market.¹³¹ The Justice Department divides

required by *Twombly*. However, the Supreme Court would require a high level of proof "tending to exclude the possibility of independent action." *Bell Atl. Corp. v. Twombly*, 550 U.S. 544, 554 (2007).

125. Judge Posner's factors are: "Market concentrated on the selling side;" "No fringe of small sellers;" "Inelastic demand at competitive price;" "Entry takes a long time;" "Buying side of market unconcentrated;" "Standard product;" "Nondurable product;" "The principal firms sell at the same level in the chain of distribution;" "Price competition more important than other forms of competition;" "High ratio of fixed to variable costs;" "Similar cost structures and production processes;" "Demand static or declining over time;" "Prices can be changed quickly;" "Sealed bidding;" "Market is local;" "Cooperative practices;" and "The industry's antitrust 'record.'" POSNER, *supra* note 52, at 69-79.

126. *Id.* at 69.

127. *Id.* at 75.

128. *Id.* at 70.

129. 1984 Merger Guidelines, 49 Fed. Reg. 26,823, 26,830 (June 29, 1984).

130. *Id.*

131. *Id.* at n.14.

markets by HHI into “unconcentrated (HHI below 1000), moderately concentrated (HHI between 1000 and 1800), and highly concentrated (HHI above 1800).”¹³² In a highly concentrated market with a HHI above 1800, the Justice Department considers “[a]dditional concentration resulting from mergers is a matter of significant competitive concern.”¹³³ At the end of 2007, even before the Verizon-Alltel merger, the HHI of the wireless market was 2674,¹³⁴ well above the level of 1800 that would lead to increased scrutiny of mergers in a highly concentrated market.

Courts would also very likely find that the level of concentration in the wireless market would raise anticompetitive concerns in rule of reason analysis. In *Container Corp.*, the Supreme Court found a marketplace where eighteen companies controlled 90% of the market to be “dominated by relatively few sellers.”¹³⁵ The Court found this market concentration to support the finding of a violation based on sharing of price information between competitors.¹³⁶

In *Todd v. Exxon Corp.*, fourteen defendants controlled collectively 80-90% of the relevant market.¹³⁷ The court reasoned that that figure was “an extremely high market share by any measure.”¹³⁸ While the number of sellers in the market began to push the boundaries of oligopoly, the court reasoned that sophisticated data dissemination could produce anticompetitive effects even among this relatively high number of sellers.¹³⁹ Moreover, “a very small handful of firms in a more highly concentrated market may be less likely to require [such sophisticated data dissemination methods].”¹⁴⁰

Accordingly, the text messaging market is highly concentrated by widely accepted econometric standards. Additionally, because it is dominated by a small number of sellers, the text messaging market is susceptible to collusion without sophisticated information exchange.

A factor that would make collusion more difficult is a fringe of small sellers, because “it makes a difference in a market where the four largest firms have 80 percent of the market whether there is one other firm or ten other firms.”¹⁴¹ While in the wireless market there are several other providers than the big four, what really matters to restricting the

132. *Id.*

133. *Id.*

134. *Thirteenth CMRS Report*, *supra* note 19, ¶ 46.

135. 393 U.S. 333, 337 (1969).

136. *Id.*

137. 275 F.3d 191, 208 (2d Cir. 2001).

138. *Id.*

139. *Id.*

140. *Id.* at 209.

141. POSNER, *supra* note 52, at 70.

power of the oligopoly is the ability of these other firms to increase their output to force price competition. The reason these firms cannot compete directly on price is that they are regional players and either don't directly compete with the national firms or don't compete on a national basis.¹⁴²

(2) *Inelastic demand at competitive price.* If demand is inelastic at the competitive price, collusion will be particularly attractive because the potential gain of collusion varies inversely with the elasticity of demand.¹⁴³ Elasticity of demand is difficult to measure, but text messaging has several characteristics that suggest inelasticity at a competitive price. First, the marginal cost is effectively zero, so in a competitive market the price would be close to zero. The demand curve of almost any commodity with a price close to zero is certainly inelastic. Second, even with the current inflated prices for text messaging, the growth and volume of text messages, with a ten-fold increase between 2005 and 2008 in number of text messages and reaching 75 billion during the month of June 2008, indicate a highly inelastic demand curve.¹⁴⁴

(3) *Barriers to market entry.* High barriers to market entry ensure that collusive firms will not face competition. Three factors place a high barrier to entry in the wireless market. First, a potential competitor needs to acquire spectrum. Second, prohibitively high fixed costs impose a large initial investment. The current wireless providers collectively invest more than \$20 billion per year just to improve their networks, thus any potential competitor faces an initial investment well into the billions of dollars.¹⁴⁵ Lastly, build-out of a complex network takes a long time.

In addition, a potential market entrant is not guaranteed that they will be able to reap the monopoly profits of the current oligopolists. The cartel can reduce their prices to try to drive the newcomer out of business, thus a potential entrant must be able to foresee a profit at a lower price than is currently charged and compete with all offerings of the current wireless providers, including voice and data services.

(4) *Product characteristics.* Judge Posner suggests examining three factors of the product to assess the risk of collusive pricing, the homogeneity of the product, the durability of the product, and the forms of competition between firms.¹⁴⁶ It is more difficult for firms to collude

142. See *Thirteenth CMRS Report*, *supra* note 19, ¶ 14 (“As of year-end 2007, there were four mobile telephone operators in the United States that analysts typically describe as ‘nationwide.’”).

143. POSNER, *supra* note 52, at 61, 71.

144. Wireless Quick Facts, CTIA, <http://www.ctia.org/advocacy/research/index.cfm/AID/10323> (follow “Research” hyperlink, then follow “Wireless 101” hyperlink).

145. *Id.*

146. POSNER, *supra* note 52, at 71.

the less homogeneous the product, because agreement will be difficult to reach without complex negotiation and it will be difficult for members of the cartel to detect cheating.¹⁴⁷ The durability of the product matters because a seller of a durable product is more tempted to cheat to gain a series of sales related to a durable product than for a one-time sale of a nondurable product.¹⁴⁸ Eliminating price competition more directly yields higher profits where other forms of competition such as warranties and service are less important.¹⁴⁹

These three factors are all present in the text messaging market. Text messaging is a homogeneous, nondurable product for which price competition is the primary form of competition between vendors.

(5) *Price information and adaptation.* Factors that Judge Posner argues favor collusion between competing firms include ease and speed of price change, sealed bidding, localized markets, and cooperative practices between sellers.¹⁵⁰ While sealed bidding is not applicable to a consumer product, the concept of the ability of colluders to detect cheating is relevant. Because wireless carriers typically pre-announce rate changes, carriers will not only be able to detect cheating but will have advance notice. Thus, each wireless carrier knows if they were to reduce their price for text messaging in an attempt to undercut the monopoly price the rest of the carriers could follow suit quickly and the cheating firm would not recognize any benefit to cheating.

Judge Posner posits that it is easier for firms to collude in a localized market because market concentration is likely higher in a localized market and sellers may communicate easier.¹⁵¹ The non-localized nature of the wireless market may cut against probability of collusion, but the ease of communication between competing firms may be increased by the cooperative practices of the industry. In a regulated industry, firms cooperate in lobbying efforts and “[t]he personal relations thus forged and opportunities for communication thus created reduce the cost of collusion.”¹⁵²

(6) *Antitrust record of industry.* The telephony market in general has a long history of antitrust scrutiny with regards to both exclusionary and collusive conduct, which is, at least, evidence that the structure of the market may favor collusion.

The convergence of these facilitating factors in the text messaging market suggests that it is highly susceptible to collusive practices.

147. *Id.* at 75.

148. *Id.*

149. *Id.*

150. *Id.* at 78.

151. *Id.*

152. *Id.* at 78–79.

Therefore, this susceptibility should be used as a lens through which economic evidence is examined to determine if tacit collusion may be the cause of anticompetitive pricing.

2. Direct Economic Evidence of Collusion in the Text Messaging Market

To determine whether collusive practices have actually occurred absent evidence of overt acts of collusion, Judge Posner suggests analyzing fourteen types of relevant economic evidence.¹⁵³ Examining the economics of the text messaging market reveals several clues of the types that Judge Posner suggests indicate collusion. The relevant economic evidence that indicates collusion includes marketwide price discrimination, exchange of price information, amplitude and fluctuation of price changes, demand elasticity at the market price, and the level and pattern of profits.

(1) *Marketwide price discrimination.* Price discrimination is selling at different prices in different sales, usually either on a basis of quantity of the sale, timing, or some other price discrimination factor in an effort to capture the deadweight loss above the marginal cost. While price discrimination “does not support, even weakly, an inference of collusion,”¹⁵⁴ uniform discounts across brands might indicate collusion.¹⁵⁵

In the text messaging market, it would not be unexpected as a result simply of individual maximizing action to have price discrimination by each service provider in the form of package plans. However, besides the uniform PPU price, the similarity of pricing plans across wireless providers may raise an inference of collusion. For example, all four wireless providers charge \$5.00 for between 200 and 300 text messages per month.¹⁵⁶ In addition, Verizon and AT&T both charge \$15.00 for 1500 text messages per month and offer unlimited texting plans at \$20.00 per month.¹⁵⁷ In a sign that this economic factor did not escape his attention, Senator Kohl, in his letter to the big four wireless carriers, asked each wireless carrier specifically to detail how its rate structure

153. Judge Posner’s factors are: “Fixed relative market shares;” “Marketwide price discrimination;” “Exchanges of price information;” “Regional price variations;” “Identical bids;” “Price, output, and capacity changes at the formation of the cartel;” “Industry resale price maintenance;” “Declining market shares of leaders;” “Amplitude and fluctuation of price changes;” “Demand elastic at the market price;” “Level and pattern of profits;” “Market price inversely coordinated with the number of firms or elasticity of demand;” “Basing-point pricing;” and “Exclusionary practices.” *Id.* at 79.

154. *In re Brand Name Prescription Drugs Antitrust Litig.*, 186 F.3d 781, 787–88 (7th Cir. 1999).

155. *Id.* at 788.

156. *Wireless Competition Hearing*, *supra* note 6 (prepared statement of Randal Milch, Executive Vice President and General Counsel, Verizon Wireless).

157. *Id.*

differs from competitors, thus allowing comparison of price discrimination across carriers.¹⁵⁸

(2) *Exchange of price information.* In a competitive market, the exchange of price information may improve competition by dispersing knowledge to buyers, but it may have the opposite impact in an oligopoly market. The practice of wireless providers to announce rate increases in advance allows a provider to effectively test the market. If it appears that no one will follow suit, then the provider can back down from the increase.

(3) *Amplitude and fluctuation of price changes.* Cartels will tend to change price less frequently and make smaller changes to price than will sellers in a competitive market.¹⁵⁹ While the size of the hefty price increases to text messages would not indicate collusion, the changes have been relatively infrequent and matched lock-step by each of the major wireless providers. This is one of the main concerns voiced by Senator Kohl in his letter to the wireless executives.¹⁶⁰ He describes the industry-wide price increases without a corresponding justification in costs as “particularly alarming.”¹⁶¹

In *American Tobacco Co. v. United States*, the Supreme Court reasoned that the record of simultaneous price increases for the leading cigarette brands in the face of declining costs and falling demand was circumstantial evidence of a conspiracy.¹⁶² While the Court might have misinterpreted the response of a monopolist to falling market demand,¹⁶³ declining costs or oversupply of a commodity should lead to price cutting, not price increases. In the words of the Ninth Circuit, “[p]rice increases which occur in times of surplus or when the natural expectation would be a general market decline, must be viewed with suspicion.”¹⁶⁴

Because the supply of text messaging is almost unlimited, the practical effect on a market should be similar to the oversupply or surplus of a commodity. Therefore, if the text messaging market is competitive, prices should decrease. While it is true that the average revenue per text message decreased between 2005 and 2007,¹⁶⁵ the PPU price charged by the four largest providers has doubled since 2005. Even the wireless providers do not claim that the PPU price increases were driven by rising costs.¹⁶⁶ The reason for the price increase is likely a scare tactic.

158. Kohl, *supra* note 5.

159. POSNER, *supra* note 52, at 89.

160. Kohl, *supra* note 5.

161. *Id.*

162. 328 U.S. 781, 804–05 (1946).

163. POSNER, *supra* note 52, at 90.

164. *C-O-Two Fire Equip. Co. v. U.S.*, 197 F.2d 489, 497 (9th Cir. 1952).

165. *Thirteenth CMRS Report*, *supra* note 19, tbl. 13.

166. *See, e.g., Wireless Competition Hearing*, *supra* note 6 (oral testimony of Randal Milch,

Consumers—especially those with teenage children—are worried about the unwanted surprise of receiving an enormous bill for text usage at the PPU rates.¹⁶⁷ Thus, raising the PPU rates forces consumers into buying plans for more texts per month than they will ever use. These plans guarantee revenue to the wireless providers for a service that has very little associated cost.

That text message prices are not based on cost is not economic evidence of a conspiracy. However, as in *American Tobacco*, the market-wide price increases for PPU text rates should be viewed as a suspicious economic marker.

(4) *Demand elasticity at the market price.* In a typical market where total cost varies with output, the theoretical point at which a monopolist maximizes his profit is when marginal revenue equals marginal cost.¹⁶⁸ But if total cost does not vary with output, a different rule will determine the monopoly price.¹⁶⁹ According to this rule the monopolist will raise prices to at least the point at which demand becomes *elastic*, because if he has set a price at which demand is *inelastic*, then an increase in price will invariably lead to higher profits.¹⁷⁰ Thus, in a monopoly market where all costs are fixed and marginal cost approaches zero, price is almost purely driven by the *inelasticity* or *elasticity* of demand. A monopolist will always raise rates above the inelastic part of the demand curve because he can always increase total revenue unless the demand is elastic.¹⁷¹ Judge Posner states that “[a]n inference of monopolization could be drawn if demand were elastic at the current price but the product did not have good substitutes as measured by relative cost.”¹⁷²

In the text messaging market, the PPU price increases by all four nation-wide wireless providers have certainly pushed the PPU price towards the elastic part of the demand curve for PPU text service. In addition, while mobile email has risen in popularity, it has not yet become a good substitute for text messaging because virtually all wireless phones have text messaging capability, but far fewer have email capability. Therefore, the raising of per message text rates to a price that starts to make consumers question whether to use text messaging may be a natural result of collusion.

(5) *Level and pattern of profits.* “In a few cases it may be possible to

Executive Vice President and General Counsel, Verizon Wireless) (“We don’t base our text message prices on our costs, in that sense.”).

167. See, e.g., Margaret Webb Pressler, *For Texting Teens, an OMG Moment When the Phone Bill Arrives*, WASH. POST, May 20, 2007, at A01.

168. VISCUSI ET AL., *supra* note 49, at 82.

169. POSNER, *supra* note 52, at 11.

170. *Id.*

171. *Id.* at 90.

172. *Id.*

infer collusion from the presence or pattern of abnormally high rates of return.¹⁷³ The text messaging market has risen from a novelty to \$80 billion in revenue in little over a decade.¹⁷⁴ The cellular providers have tried to obscure the true costs of providing text messaging service, but, because the costs are relatively insensitive to volume, one can conclude that the high revenues of text messaging are mostly profit.¹⁷⁵ In addition, during the time revenue from text messaging has been exploding, the average revenue per minute for voice calls for US carriers has been declining.¹⁷⁶ Even with a 22% decline in voice revenue per minute in 2005 and a 5% decline in 2006, carriers were able to maintain approximately the same revenue per subscriber by an increase in mobile data revenue, including text messaging.¹⁷⁷ Thus, wireless carriers have been able to forestall a decline in average revenue per subscriber by increasing revenue from other services such as text messaging.

While no single piece of economic evidence is determinative of the presence of a conspiracy to raise text message prices, the presence of several types of economic evidence that tend to indicate collusion warrant further inquiry. Under a formalistic reading of *Twombly*, antitrust cases against the wireless providers are not likely to get past a motion to dismiss. However, if a court is willing to view the totality of the economic evidence in context, including economic evidence showing that the market is highly susceptible to collusion, it may find enough evidence to allow an action to proceed. If an action does get past a motion to dismiss under *Twombly*, more information on text message pricing may come to light through discovery.

VI. FCC REGULATION OF TEXT MESSAGE PRICING

The overarching policies of fairness and efficiency have been present in the mandate of the FCC since its inception with the passage of the 1934 Communications Act, charging the FCC with the duty “to make available, so far as possible, to all the people of the United States, . . . a rapid, efficient, nationwide, and world-wide wire and radio communication service with adequate facilities at reasonable charges.”¹⁷⁸ With regard to text messaging, the FCC has let wireless customers down both with respect to reasonable rates and efficient use of wireless spectrum. Price gouging for text messaging both overcharges customers and suppresses the use of what otherwise could be an even more valuable

173. *Id.*

174. Kuhl, *supra* note 2.

175. Stross, *supra* note 16.

176. *Thirteenth CMRS Report*, *supra* note 19, ¶ 193.

177. *Id.* ¶¶ 193, 195.

178. 47 U.S.C. § 151 (2006).

communications tool than it is today.

Texting is an efficient form of communication in circumstances when only a short message is necessary, and while text messaging has grown by at least an order of magnitude since 2004,¹⁷⁹ many customers may not adopt its use, or restrict use to prevent having to pay exorbitant fees. Thus, not only has the FCC failed to protect consumers from unreasonable charges by allowing price gouging in text messaging, but consumers are not getting the maximum benefit from efficient use of spectrum regulated by the FCC.

The FCC should examine more closely the economics of data pricing in the wireless market and take responsibility for market conditions that it created as a result of its wireless policy. As a first step, the FCC should set a price cap on PPU rates closer to the marginal cost of the service. Additionally, the FCC should recognize that a byte of data is not somehow different because it is text, and disallow wireless carriers from charging a separate rate for text messaging apart from data service.

CONCLUSION

Analysis of economic evidence indicates that the text messaging market is highly susceptible to collusion, and collusion, either tacit or express, may be the cause of monopoly prices for text messaging. While antitrust action from consumer class action groups or congressional oversight is a possible route to competitive pricing of text messaging, the skeptical view of Supreme Court jurisprudence with regard to accepting tacit collusion as an agreement in restraint of trade under the Sherman Act may prevent a judicial resolution to text message price gouging.

Wireless providers know that the FCC closely examines competition in traditional services, and thus they would be reluctant to collude on pricing for those services. However, by selling text messaging as a premium service to consumers and effectively using competition in voice service to shield extraordinarily high prices for text messaging service, the major wireless providers have been able to reap windfall profits from consumers without close FCC scrutiny. As part of its fulfillment of the obligation to promote competition in the wireless industry the FCC should take action against market conditions in the wireless market that have resulted in anticompetitive prices for text messaging service.

179. *Thirteenth CMRS Report*, *supra* note 19, ¶ 2.