In the
# United States Court of Appeals
For the Seventh Circuit

No. 14-2301

IN RE: TEXT MESSAGING ANTITRUST LITIGATION

AIRCRAFT CHECK SERVICES CO., *et al.*, individually and on behalf of all others similarly situated,

*Plaintiffs-Appellants*,

v.

VERIZON WIRELESS, *et al.*,

*Defendants-Appellees*.

Appeal from the United States District Court for the Northern District of Illinois, Eastern Division.
No. 08 C 7082—**Matthew F. Kennelly**, *Judge*.

ARGUED FEBRUARY 10, 2015 — DECIDED APRIL 9, 2015

Before WOOD, *Chief Judge*, and POSNER and TINDER, *Circuit Judges*.

POSNER, *Circuit Judge*. This class action antitrust suit is before us for the second time. More than four years ago we granted the defendants' petition to take an interlocutory appeal (see 28 U.S.C. § 1292(b)) from the district judge's refusal to dismiss the complaint for failure to state a claim. But we upheld the judge's ruling. *In re Text Messaging Antitrust Litigation*, 630 F.3d 622 (7th Cir. 2010). Three years of discovery ensued, culminating in the district judge's grant of the defendants' motion for summary judgment, followed by entry of final judgment dismissing the suit, precipitating this appeal by the plaintiffs.

The suit is on behalf of customers of text messaging—the sending of brief electronic messages between two or more mobile phones or other devices, over telephone systems (usually wireless systems), mobile communications systems, or the Internet. (The most common method of text messaging today is to type the message into a cellphone, which transmits it instantaneously over a telephone or other communications network to a similar device.) Text messaging is thus an alternative both to email and to telephone calls. The principal defendants are four wireless network providers—AT&T, Verizon, Sprint, and T-Mobile—and a trade association, The Wireless Association, to which those companies belong. The suit claims that the defendants, in violation of section 1 of the Sherman Act, 15 U.S.C. §§ 1 *et seq*., conspired with each other to increase one kind of price for text messaging service—price per use (PPU), each "use" being a message, separately priced. This was the original method of pricing text messaging; we'll see that it has largely given way to other methods, but it still has some customers and they are the plaintiffs and the members of the plaintiff class.

The defendants' unsuccessful motion to dismiss the complaint—the motion the denial of which we reviewed and upheld in the first appeal—invoked *Bell Atlantic Corp. v.*

*Twombly*, 550 U.S. 544 (2007), which requires a complaint to pass a test of "plausibility" in order to avoid dismissal. The reason for this requirement is to spare defendants the burden of a costly defense against charges likely to prove in the end to have no merit. We decided that the plaintiffs' second amended complaint passed the test; we noted that the complaint

> alleges a mixture of parallel behaviors, details of industry structure, and industry practices, that facilitate collusion. There is nothing incongruous about such a mixture. If parties agree to fix prices, one expects that as a result they will not compete in price—that's the purpose of price fixing. Parallel behavior of a sort anomalous in a competitive market is thus a symptom of price fixing, though standing alone it is not proof of it; and an industry structure that facilitates collusion constitutes supporting evidence of collusion. … [T]he complaint in this case alleges that the four defendants sell 90 percent of U.S. text messaging services, and it would not be difficult for such a small group to agree on prices and to be able to detect "cheating" (underselling the agreed price by a member of the group) without having to create elaborate mechanisms, such as an exclusive sales agency, that could not escape discovery by the antitrust authorities.
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> Of note is the allegation in the complaint that the defendants belonged to a trade association and exchanged price information directly at association meetings. This allegation identifies a practice, not illegal in itself, that facilitates price fixing that would be difficult for the authorities to detect. The complaint further alleges that the defendants, along with two other large sellers of text messaging services, constituted and met with each other in an elite "leadership council" within the association—and the lead-

ership council's stated mission was to urge its members to substitute "co-opetition" for competition.

The complaint also alleges that in the face of steeply falling costs, the defendants increased their prices. This is anomalous behavior because falling costs increase a seller's profit margin at the existing price, motivating him, in the absence of agreement, to reduce his price slightly in order to take business from his competitors, and certainly not to increase his price. And there is more: there is an allegation that all at once the defendants changed their pricing structures, which were heterogeneous and complex, to a uniform pricing structure, and then simultaneously jacked up their prices by a third. The change in the industry's pricing structure was so rapid, the complaint suggests, that it could not have been accomplished without agreement on the details of the new structure, the timing of its adoption, and the specific, uniform price increase that would ensue on its adoption. …

What is missing, as the defendants point out, is the smoking gun in a price-fixing case: direct evidence, which would usually take the form of an admission by an employee of one of the conspirators, that officials of the defendants had met and agreed explicitly on the terms of a conspiracy to raise price. The second amended complaint does allege that the defendants "agreed to uniformly charge an unprecedented common per-unit price of ten cents for text messaging services," but does not allege direct evidence of such an agreement; the allegation is an inference from circumstantial evidence. Direct evidence of conspiracy is not a sine qua non, however. Circumstantial evidence can establish an antitrust conspiracy. … We need not decide whether the circumstantial evidence that we have summarized is sufficient to *compel* an inference of conspiracy; the case is just at the complaint stage and the

> test for whether to dismiss a case at that stage turns on the complaint's "plausibility." …
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> The plaintiffs have conducted no discovery. Discovery may reveal the smoking gun or bring to light additional circumstantial evidence that further tilts the balance in favor of liability.

*In re Text Messaging Antitrust Litigation*, *supra*, 630 F.3d at 627–29; see also, for example, *White v. R.M. Packer Co.*, 635 F.3d 571 (1st Cir. 2011).

In short, we pointed to the small number of leading firms in the text messaging market, which would facilitate concealment of an agreement to fix prices; to the alleged exchanges of price information, orchestrated by the firms' trade association; to the seeming anomaly of a price increase in the face of falling costs; and to the allegation of a sudden simplification of pricing structures followed very quickly by uniform price increases.

With dismissal of the complaint refused and the suit thus alive in the district court, the focus of the lawsuit changed to pretrial discovery by the plaintiffs, which in turn focused on the alleged price exchange through the trade association and the sudden change in pricing structure followed by uniform price increases. Other factors mentioned in our first opinion—the small number of firms, and price increases in the face of falling costs—were conceded to be present but could not be thought dispositive. It is true that if a small number of competitors dominates a market, they will find it safer and easier to fix prices than if there are many competitors of more or less equal size. For the fewer the conspirators, the lower the cost of negotiation and the likelihood of defection; and provided that the fringe of competitive firms is unable to expand output sufficiently to drive the price back down to the competitive level, the leading firms can fix prices without worrying about competition from the fringe. But the other side of this coin is that the fewer the firms, the easier it is for them to engage in "follow the leader" pricing ("conscious parallelism," as lawyers call it, "tacit collusion" as economists prefer to call it)—which means coordinating their pricing without an actual agreement to do so. As for the apparent anomaly of competitors' raising prices in the face of falling costs, that is indeed evidence that they are not competing in the sense of trying to take sales from each other. However, this may be not because they've agreed not to compete but because all of them have determined independently that they may be better off with a higher price. That higher price, moreover—the consequence of parallel but independent decisions to raise prices—may generate even greater profits (compared to competitive pricing) if costs are falling, provided that consumers do not have attractive alternatives.

Important too is the condition of entry. If few firms can or want to enter the relevant market, a higher price generating higher profits will not be undone by the output of new entrants. Indeed, prospective entrants may be deterred from entering by realization that their entry might lead simply to a drastic fall in prices that would deny them the profits from having entered. And that drastic fall could well be the result of parallel but independent pricing decisions by the incumbent firms, rather than of agreement.

The challenge to the plaintiffs in discovery was thus to find evidence that the defendants had colluded expressly—that is, had explicitly agreed to raise prices—rather than tacitly ("follow the leader" or "consciously parallel" pricing). The focus of the plaintiffs' discovery was on the information exchange orchestrated by the trade association, the change in the defendants' pricing structures and the defendants' ensuing price hikes, and the possible existence of the smoking gun—and let's begin there, for the plaintiffs think they have found it, and they have made it the centerpiece—indeed, virtually the entirety—of their argument.

Their supposed smoking gun is a pair of emails from an executive of T-Mobile named Adrian Hurditch to another executive of the firm, Lisa Roddy. Hurditch was not a senior executive but he was involved in the pricing of T-Mobile's products, including its text messaging service. The first of the two emails to Roddy, sent in May 2008, said "Gotta tell you but my gut says raising messaging pricing again is nothing more than a price gouge on consumers. I would guess that consumer advocates groups are going to come after us at some point. It's not like we've had an increase in the cost to carry message to justify this or a drop in our subscription SOC rates? I know the other guys are doing it but that doesn't mean we have to follow." ("SOC" is an acronym for "system on a chip," a common component of cellphones.) The second email, sent in September 2008 in the wake of a congressional investigation of alleged price gouging by the defendants, said that "at the end of the day we know there is no higher cost associated with messaging. The move [the latest price increase by T-Mobile] was colusive [*sic*] and opportunistic." The misspelled "collusive" is the heart of the plaintiffs' case.

It is apparent from the emails that Hurditch disagreed with his firm's policy of raising the price of its text messaging service. (The price increase, however, was limited to the PPU segment of the service; we'll see that this is an important qualification.) But that is all that is apparent. In emphasizing the word "col[l]usive"—and in arguing in their opening brief that "Hurditch's statement that the price increases were collusive is thus dispositive. Hurditch's statement is a party admission and a co-conspirator statement"—the plaintiffs' counsel demonstrate a failure to understand the fundamental distinction between express and tacit collusion. Express collusion violates antitrust law; tacit collusion does not. There is nothing to suggest that Hurditch was referring to (or accusing his company of) express collusion. In fact the first email rather clearly refers to tacit collusion; for if Hurditch had thought that his company had agreed with its competitors to raise prices he wouldn't have said "I know the other guys are doing it but *that doesn't mean we have to follow*" (emphasis added). They would have to follow, or at least they would be under great pressure to follow, if they had agreed to follow.

As for the word "opportunistic" in the second email, this is a reference to the remark in the first email that T-Mobile and its competitors were seizing an opportunity to gouge consumers—and in a highly concentrated market, seizing such an opportunity need not imply express collusion.

Consider the last sentence in the second, the "colusive," email: "Clearly get why but it doesn't surprise me why public entities and consumer advocacy groups are starting to groan." This accords with another of Hurditch's emails, in which he predicted that the price increase would cause "bad PR [public relations]." Those concerns would be present whether the collusion among the carriers was tacit or express.

Nothing in any of Hurditch's emails suggests that he believed there was a conspiracy among the carriers. There isn't even evidence that he had ever communicated on any subject with any employee of any of the other defendants. The reference to "the other guys" was not to employees of any of them but to the defendants themselves—the companies, whose PPU prices were public knowledge.

The plaintiffs make much of the fact that Hurditch asked Roddy to delete several emails in the chain that culminated in the "colusive" email. But that is consistent with his not wanting to be detected by his superiors criticizing their management of the company. The plaintiffs argue that, no, the reason for the deletion was to destroy emails that would have shown that T-Mobile was conspiring with the other carriers. If this were true, the plaintiffs would be entitled to have the jury instructed that it could consider the deletion of the emails to be evidence (not conclusive of course) of the defendants' (or at least of T-Mobile's) guilt. But remember that there is no evidence that Hurditch was involved in, or had heard about, any conspiracy, and there is as we've just seen an equally plausible reason for the deletion of the emails in question. There's nothing unusual about sending an intemperate email, regretting sending it, and asking the recipient to delete it. And abusing one's corporate superiors—readily discernible even in Hurditch's emails that were not deleted—is beyond intemperate; it is career-endangering, often career-ending. Hurditch and Roddy acknowledged in their depositions that at least one of the deleted emails had criticized T-Mobile's senior management in "emotional" terms. Furthermore, if T-Mobile destroyed emails that would have revealed a conspiracy with its competitors, why didn't it destroy the "smoking gun" email—the "colusive" email?

Even if the district judge should have allowed the jury to draw an adverse inference from the destruction of the emails, this could not have carried the day for the plaintiffs or even gotten them a trial. T-Mobile's Record Retention Guidelines indicate that Hurditch and Roddy had no obligation to retain their correspondence, because the guidelines state that employees need not retain "routine letters and notes that require no acknowledgment or follow-up" as distinct from "letters of general inquiry and replies that complete a cycle of correspondence." Hurditch's emails to Roddy were not inquiries; they were gripes and worries. Nor can a subordinate employee's destruction of a document, even if in violation of company policy, be automatically equated to a bad-faith act by the company.

The problems with the plaintiff's case go beyond the inconclusiveness of the "colusive" email on which their briefs dwell at such length. The point that they have particular difficulty accepting is that the Sherman Act imposes no duty on firms to compete vigorously, or for that matter at all, in price. This troubles some antitrust experts, such as Harvard Law School Professor Louis Kaplow, whose book *Competition Policy and Price Fixing* (2013) argues that tacit collusion should be deemed a violation of the Sherman Act. That of course is not the law, and probably shouldn't be. A seller must decide on a price; and if tacit collusion is forbidden, how does a seller in a market in which conditions (such as few sellers, many buyers, and a homogeneous product, which may preclude nonprice competition) favor convergence by the sellers on a joint profit-maximizing price without their actually agreeing to charge that price, decide what price to charge? If the seller charges the profit-maximizing price (and its "competitors" do so as well), and tacit collusion is illegal, it is in trouble. But how is it to avoid getting into trouble? Would it have to adopt cost-plus pricing and prove that its price just covered its costs (where cost includes a "reasonable return" to invested capital)? Such a requirement would convert antitrust law into a scheme resembling public utility price regulation, now largely abolished.

And might not entry into concentrated markets be deterred because an entrant who, having successfully entered such a market, charged the prevailing market price would be a tacit colluder and could be prosecuted as such, if tacit collusion were deemed to violate the Sherman Act? What could be more perverse than an antitrust doctrine that discouraged new entry into highly concentrated markets? Prices might fall if the new entrant's output increased the market's total output, but then again it might not fall; the existing firms in the market might reduce their output in order to prevent the output of the new entrant from depressing the market price. If as a result the new entrant found itself charging the same price as the incumbent firms, it would be tacitly colluding with them and likewise even if it set its price below that of those firms in order to maximize its profit from entry yet above the price that would prevail were there no tacit collusion.

Further illustrating the danger of the law's treating tacit collusion as if it were express collusion, suppose that the firms in an oligopolistic market don't try to sell to each other's sleepers, "sleepers" being a term for a seller's customers who out of indolence or ignorance don't shop but instead are loyal to whichever seller they've been accustomed to buy from. Each firm may be reluctant to "awaken" any of the other firms' sleepers by offering them discounts, fearing retaliation. To avoid punishment under antitrust law for such forbearance (which would be a form of tacit collusion, aimed at keeping prices high), would firms be *required* to raid each other's sleepers? It is one thing to prohibit competitors from agreeing not to compete; it is another to order them to compete. How is a court to decide how vigorously they must compete in order to avoid being found to have tacitly colluded in violation of antitrust law? Such liability would, to repeat, give antitrust agencies a public-utility style regulatory role.

Or consider the case, of which the present one may be an exemplar, in which there are four competitors and one raises its price and the others follow suit. Maybe they do that because they think the first firm—the price leader—has insights into market demand that they lack. Maybe they're afraid that though their sales will increase if they don't follow the leader up the price ladder, the increase in their sales will induce the leader to reduce his price, resulting in increased sales by him at the expense of any firm that had refused to increase its price. Or the firms might fear that the price leader had raised his price in order to finance product improvements that would enable him to hold on to his existing customers—and win over customers of the other firms. If any of these reflections persuaded the other firms—without any communication with the leader—to raise their prices, there would be no conspiracy, but merely tacit collusion, which to repeat is not illegal despite the urging of Professor Kaplow and others.

Competitors in concentrated markets watch each other like hawks. Think of what happens in the airline industry, where costs are to a significant degree a function of fuel prices, when those prices rise. Suppose one airline thinks of and implements a method for raising its profit margin that it expects will have a less negative impact on ticket sales than an increase in ticket prices—such as a checked-bag fee or a reservation-change fee or a reduction in meals or an increase in the number of miles one needs in order to earn a free ticket. The airline's competitors will monitor carefully the effects of the airline's response to the higher fuel prices afflicting the industry and may well decide to copy the response should the responder's response turn out to have increased its profits.

The collusion alleged by the plaintiffs spanned the period 2005 to 2008 (the year the suit was filed), and we must consider closely the evolution of the text messaging market in that period. Text messaging (a descendant of the old telex service) started in the 1990s and started slowly. In 2005, 81 billion text messages were sent in the United States, which sounds like a lot; in fact it was peanuts—for by 2008 the number had risen to a trillion and by 2011 to 2.3 trillion. One reason for the rapid increase was the advent and increasing popularity of volume-discounted text messaging plans. These plans entitled the buyer to send a large number of messages (often an unlimited number) at a fixed monthly price that made each message sent very cheap to the sender. We'll call these plans "bundles," and ignore the fact that often a text messaging bundle includes services in addition to text messaging, such as voice and video messaging. The pricing of text messaging bundles (for example charging a fixed monthly rate for unlimited messaging) largely replaced the original method of pricing text messages, which had been price per use (PPU), that is, price per individual message, not per month or per some fixed number of messages. Once text messaging bundles became popular, the PPU market shrunk to the relative handful of people who send text messages infrequently. The collusion alleged in this case is limited to that market.

In 2005 the price per use was very low—as low as 2 cents, though more commonly 5 cents. But between then and late 2008 all four defendant companies, in a series of steps (10 steps in all for the four companies), raised each of their PPUs to 20 cents. The increase attracted congressional concern and an investigation by the Justice Department's antitrust division, but neither legislative nor prosecutorial action resulted—only the series of class actions suits consolidated in 2009 in the suit before us.

The popularity of text messaging bundles took a big bite out of the PPU market. The consumers left in that market were as we said those who sent very few messages. The total cost to such users was very low. Each defendant company made, so far as appears, an independent judgment that PPU usage per customer was on average so low that the customer would not balk at, if he would even notice, an occasional increase of a few cents per message. Suppose a grandparent living in Florida sends one text message a week to his grandchild in Illinois at a cost of 5 cents a message. That adds up to roughly 4 messages a month, for a total of 20 cents. The text messaging service now doubles the price, to

10 cents a message. The monthly charge is now 40 cents. Is the customer likely to balk? When in 2006 Sprint raised its PPU from 10 cents to 15 cents, it estimated that the average result would be an increase of 74 cents a month in the cost of the service for the vast majority of its PPU customers. Neither in our hypothetical example nor in Sprint's real-world analysis is a competing carrier likely to spend money advertising that its PPU price is 5 cents lower than what the competition is charging.

Our earlier discussion of "sleepers" is relevant here. As heavy users of text messaging switched from PPU to bundles, the PPU market was left with the dwindling band of consumers whose use of text messaging was too limited to motivate them to switch to bundles or to complain about small increases in price per message. And they certainly weren't going to undergo the hassle of switching companies just because they would be paying a few dollars a year more for text messaging. This is no more than a plausible interpretation of the motive for and character of the price increases of which the plaintiffs complain, but the burden of establishing a prima facie case of explicit collusion was on the plaintiffs, and as the district judge found in his excellent opinion they failed to carry the burden.

Granted, the defendants overstate their case in some respects. They point out that each company conducted independent evaluations of the profitability of raising their PPUs, but one would expect such "independent" evaluations even if the firms were expressly colluding, as the "independent" evaluations would disguise what they were doing. The firms contend unnecessarily that the evaluations showed that the contemplated price increases would be profitable even if none of the other three carriers raised its PPU. That is overkill because it is not a violation of antitrust law for a firm to raise its price, counting on its competitors to do likewise (but without any communication with them on the subject) and fearing the consequences if they do not. In fact AT&T held back on raising its PPU for several months, fearing that Sprint's increase would have a bad effect on public opinion, and raised its own price only when the bad effect did not materialize.

The plaintiffs point out that the existence of express collusion can sometimes be inferred from circumstantial evidence, and they claim that they produced such evidence, along with Hurditch's emails, which they term direct evidence of such collusion—which, as we know, they are not. Circumstantial evidence of such collusion might be a decline in the market shares of the leading firms in a market, for their agreeing among themselves to charge a high fixed price might have caused fringe firms and new entrants to increase output and thus take sales from the leading firms. Circumstantial evidence might be inflexibility of the market leaders' market shares over time, suggesting a possible agreement among them not to alter prices, since such an alteration would tend to cause market shares to change. Or one might see a surge in nonprice competition, a form of competition outside the scope of the cartel agreement and therefore a possible substitute for price competition. Other evidence of express collusion might be a high elasticity of demand (meaning that a small change in price would cause a substantial change in quantity demanded), for this might indicate that the sellers had agreed not to cut prices even though it would be to the advantage of each individual seller to do so until the market price fell to a level at which the added quantity sold did not offset the price decrease.

The problem is that these phenomena are consistent with tacit as well as express collusion; their absence would tend to negate both, but their presence would not point unerringly to express collusion. And anyway these aren't the types of circumstantial evidence on which the plaintiffs rely. Rather they argue that had any one of the four carriers not raised its price, the others would have experienced costly consumer "churn" (the trade's term for losing customers to a competitor), and therefore all four dared raise their prices only because they had agreed to act in concert. For that would minimize churn—PPU customers would have no place to turn for a lower price. There is, however, a six-fold weakness to this suggested evidence of express collusion:

First, a rational profit-maximizing seller does not care about the number of customers it has but about its total revenues relative to its total costs. If the seller loses a third of its customers because it has doubled its price, it's ahead of the game because twice two-thirds is greater than one (4/3 > 3/3).

Second, in any case of tacit collusion the colluders risk churn, because no one would have committed to adhere to the collusive price. And yet tacit collusion appears to be common, each tacit colluder reckoning that in all likelihood the others will see the advantages of hanging together rather than hanging separately.

Third, the four defendants in this case did not move in lockstep. For months on end there were price differences in their services. For example, during most of the entire period at issue (2005 to 2008) T-Mobile's PPU was 5 cents below

Sprint's. To eliminate all risk of churn the defendants would have had to agree to raise their prices simultaneously, and they did not.

Fourth, while there was some churn, this does not imply that each defendant had decided to raise its price so high as to drive away droves of customers had the other defendants not followed suit. T-Mobile, for example, appears not to have gained a significant number of customers from charging less for PPU service than Sprint. (As one internal T-Mobile email puts it, "we should seriously consider raising our pay per message rate … . [F]or having the lowest messaging rates on the planet, we are not necessarily receiving a more favorable share of the market. I'm thinking we can move to 10c[ents] with little erosive concerns.") One reason is that, as noted earlier, while 5 cents can make a large percentage difference in this market, it is such a small absolute amount of money that it may make no difference to most consumers, especially when a nickel or a dime or 20 cents is multiplied by a very small number of monthly messages. More important, as a customer's monthly messaging increases, and also the price per message (as was happening during this period), the alternative of a text messaging bundle plan becomes more attractive. A company that stands to lose some PPU customers because of a price increase may be confident that they will not abandon the company for another but instead sign on to the company's text messaging bundle plan. Put differently, there is no evidence that PPU pricing is a major determinant of consumers' choice of carrier.

Fifth, the period during which the carriers were raising their prices was also the period in which text messaging caught on with the consuming public and surged in volume.

Many PPU customers would have found that they were text messaging more, and the more one text messages the more attractive the alternative of a bundle plan. The defendants *wanted* their PPU customers to switch to bundles; as an internal T-Mobile email in the plaintiffs' appendix explains, "the average cost to serve an 'Unlimited SMS' [i.e., a bundled short-message service at a fixed price regardless of the number of messages, "short message" referring to a simple text message, rather than a message having voice or video content] customer paying $9.99 [per month] is $1.90 per month and [we make] a profit of $8.09 per sub[scriber]."

And sixth, if the carriers were going to agree to fix prices, they wouldn't have fixed their PPU prices; why risk suit or prosecution for fixing such prices when the PPU market was generating such a slight—and shrinking—part of the carriers' overall revenues? The possible gains would be more than offset by the inevitable legal risks. Furthermore, since an agreement to fix prices in the PPU market would have left the carriers free to cut prices on the bulk of their business (for they are not accused of fixing bundle prices), the slight gains from fixing PPU prices would be negated by increased competition in the carriers' other markets.

The plaintiffs argue that many of the price increases were forced by senior management on the middle managers who would ordinarily be responsible for pricing decisions. The claim is that it would be the senior officials, few in number, at each company who would have negotiated the actual collusive agreement that the plaintiffs must prove. But what the record shows is merely (as in the Hurditch emails) that there was disagreement within each company about the optimal price to charge, obviously a speculative matter since no one could be certain how either competitors or consumers would react to any price change. There was plenty of evidence that proposals for price increases came from middle management. An economist would say (one of the defendants' economic experts did say) that as the price-sensitive users moved off PPU to bundles, leaving PPU to the sleepers, the overall demand for PPU became less elastic, meaning that a given percentage increase in the price of PPU service had a smaller negative effect on the demand for the service. That made raising the PPU a revenue winner.

It remains to consider the claim that the trade association of which the defendants were members, The Wireless Association (it has a confusing acronym—CTIA, reflecting the original name of the association, which was Cellular Telephone Industries Association), and a component of the association called the Wireless Internet Caucus of CTIA, were forums in which officers of the defendants met and conspired to raise PPU prices. Officers of some of the defendants attended meetings both of the association and of its caucus, but representatives of companies not alleged to be part of the conspiracy frequently were present at these meetings, and one of the plaintiffs' expert witnesses admitted that in the presence of non-conspirators "the probability of collusion would go away." Still, opportunities for senior leaders of the defendants to meet privately in these officers' retreats abounded. And an executive of one of the defendants (AT&T) told the president of the association that "we all try not to surprise each other" and "if any of us are about to do something major we all tend to give the group a heads up"—"plus we all learn valuable info from each other." This evidence would be more compelling if the immediate sequel to any of these meetings had been a simultaneous or nearsimultaneous price increase by the defendants. Instead there were substantial lags. And as there is no evidence of what information was exchanged at these meetings, there is no basis for an inference that they were using the meetings to plot prices increases.

This and other circumstantial evidence that the plaintiffs cite are almost an afterthought. They have staked almost their all on Hurditch's emails—the name "Hurditch" recurs more than 160 times in the plaintiffs' opening and reply briefs. It's a mystery to us that the plaintiffs have placed such weight on those emails, thereby wasting space in their briefs that might have been better used. The plaintiffs greatly exaggerate the significance of the emails, but apart from the emails the circumstantial evidence that they cite provides insufficient support for the charge of express collusion.

It is of course difficult to prove illegal collusion without witnesses to an agreement. And there are no such witnesses in this case. We can, moreover, without suspecting illegal collusion, expect competing firms to keep close track of each other's pricing and other market behavior and often to find it in their self-interest to imitate that behavior rather than try to undermine it—the latter being a risky strategy, prone to invite retaliation. The plaintiffs have presented circumstantial evidence consistent with an inference of collusion, but that evidence is equally consistent with independent parallel behavior.

We hope this opinion will help lawyers understand the risks of invoking "collusion" without being precise about what they mean. Tacit collusion, also known as conscious parallelism, does not violate section 1 of the Sherman Act. Collusion is illegal only when based on agreement. Agreement can be proved by circumstantial evidence, and the plaintiffs were permitted to conduct and did conduct full pretrial discovery of such evidence. Yet their search failed to find sufficient evidence of express collusion to make a prima facie case. The district court had therefore no alternative to granting summary judgment in favor of the defendants.

AFFIRMED.