Why Do Competitive Markets Keep Misbehaving? The Curious Case Of Cellular Txt Msging.

Been meaning to get to this for awhile now, which is why the links are so old.

It has long been an article of faith among the worshipers of the Gods of the Marketplace that once you achieve "competition" (generally described as at least one more *possible* new entrant, but certainly where multiple providers exist) you eliminate regulation, because a competitive marketplace gives consumers what they want — like high fuel efficiency standards and a secure financial system. Thus, for the 30 or so years, we have more and more framed the debate in telecom and media policy around whether or not we have "enough" competition rather than about the benefits or drawbacks of any actual policy. Unsurprisingly, you can always argue that we have "enough" competition (or that competition is about to emerge) and thus side step the whole question of the actual state of reality and what reality we might prefer.

Enter the curious case of cellular telephony. I'll take the case of text messaging, although the same argument applies in varying degrees to other aspects of the wireless market like network attachments and ring tones. As Randall Stross wrote in the NY Times at the end of December, the cost charged

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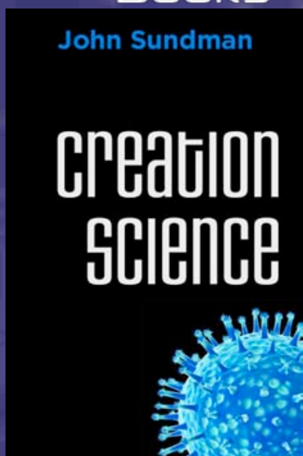

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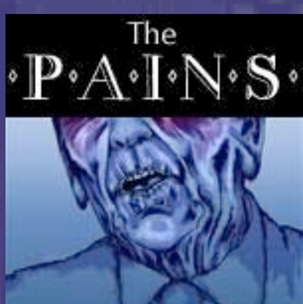

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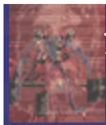

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to consumers for txt messaging has absolutely nothing whatsoever to do with the actual cost of the service. Yet — as we are constantly reminded — the cell phone market has four national players and numerous regional players. This makes it squindoodles more competitive than, say, the broadband market in most places in the country where you can generally get two somewhat comparable services (cable and DSL) and a whole bunch of also rans that folks like to claim are competition.

Text messaging is so overpriced compared to cost that last year Senator Herb Kohl, Chair of the Senate Antitrust Subcommittee, has sent a letter to AT&T, VZ, T-Mobile, and Sprint (more details here)asking 'Ello, 'ello, 'ello and what's all this 'ere, then? — you're nicked!' (no, I have no idea why Kohl sounds like a British Bobby from 50 years ago — ask him). As Kohl noted in his letter, the consistent ridiculously high prices for SMS txt messaging "is hardly consistent with the vigorous price competition we hope to see in a competitive marketplace."

Short answer: it is utterly consistent with the nature of the wireless market. But — and here's the shocker — real world markets are often much, much more complicated than the followers of the Gods of the Marketplace like to believe. Cell phone companies charge outrageous prices for text messaging (and other services like ring tones) not because they conspire with one another, or even because they engage in conscious parallelism. Nor do they do so because they must as a result of actual costs. They do so because — to use that classic phrase — it is what the market will bear, and the structure of the market ensures there is no benefit to any cellular carrier to offer text msging plans at anything approaching cost plus reasonable profit.

In economic terms, this is an oligopoly. Washington regulators treat oligopolies as if they were the same as competitive

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markets, unless one can show evidence of actual collusion — in which case it becomes a question of price fixing. But in reality, it doesn't always work out that way. Even absent collusion, the ability of players to engage in strategic planing can negate the anticipated benefits of competition. Applying this framework to the CMRS market, and the question of the price of text messaging goes from suspicious riddle to entirely predictable. Whether you regard this as a reasonable outcome or not has nothing to do with "competition" or "market failure" and everything to do with whether we make a policy choice to care about it or not.

(Much) longer answer below . . . .

I wish I could make this shorter and less technical, but I can't — not without leaving it open to the usual attacks by those who labor under the "Binary Fallacy" (that markets are *either* "competitive enough" *or* "not competitive enough"). So grit your teeth, get some caffeine, and bear with me here.

Is There A Problem With Text Messaging Pricing?

As folks who follow this stuff have known for awhile, the rising cost of text messaging makes no sense if free market competition pressured providers to provide the best possible service at the lowest cost. As calculated by gthing.net last summer, the cost of text messaging over cell phones 1 cent per 7 bytes of data transferred — a number with no basis in cost. To the contrary, all costs associated with SMS text messaging have gone down over time.

But rather than going down, as one would expect in a competitive market absent a surge in related costs, this constitutes an increase of 100% for the price of text messaging over 2 years. As Andrew Odlyzko observed, this translates to a rate of $1000/MB for text messaging on cellular

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- S.N.A.F.U. Principle
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- Skippy the Bush Kangaroo
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plan. Given that many of these cellular companies offer data plans that have much lower rates, the idea that this bears any relationship to cost is absurd.

More to the point, the author if the gthing blog observed that prices had started to go down as one might expect , then increased with the increase in consolidation. Mind you, this is not proof that consolidation is the cause of the price increase. It is also noteworthy that the price increase in text messaging occurred as the popularity of text messaging increased, and — perhaps more importantly — as the mobile market matured from one in which most people who could own cell phones did not own them to one in which most people who could own cell phones do own them.

To the worshipers of the Gods of the Market Place at U of C (and here in DC), it's time to drag out the drums and sing another devotional accolade while getting on the warpaint against any proposed regulation. After all, we have the right number of competitors, generally four or more available in most areas, to produce a “mildly concentrated market” under traditional HHI standards. For a faith that believes even a monopoly market is competitive under the right circumstances, four is just a positive Nirvana of competition. So the pricing of text messaging, and any other practice of wireless network operators, must be perfect.

Others that still accept the basic idea but live enough in the real world to experience serious cognitive dissonance at the the thought that competitive markets produce a result totally unrelated to the cost of the service look for a competition-based explanation. Either they conclude that the players must collude with one another (either via explicit collusion or via conscious parallelism), or they conclude that we don't have “enough” competition (for example, many geographic regions have

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- Spocko's Brain
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fewer than four competitors). The evidence on this is a little more ambiguous, but — in my opinion — it doesn't really account for the behavior of cellular companies. We do see certain kinds of competition between the major players. Some of these are less obvious than others (e.g., getting exclusives on desirable equipment, the level of control the network operator exerts over the use of the network), but some are more obvious. We have seen price competition among the major competitors along certain lines — such as the emergence of “all you can eat” plans for voice, data, and texting. Yes, we do see a lot of standardization along certain lines for these packages — no one offers a data or texting plan without a voice plan, for example. But we would expect certain similarities in a fully competitive market. So while we can't rule out conscious parallelism, the current pricing structure (including the utter lack of any relationship between cost to provide service and the actual price charged) does not require conscious parallelism either.

<u>So If It's Not Nirvana And It's Not Conspiracy, Why Does this Cost So Much?</u>

As one might expect, where the simple explanations based on theory don't measure up, we resort to the messy and the complicated. Turns out the wireless communications market has several attributes that mess up the simple Econ 101 theory that a competitive market inevitably yields the efficient balance between supply and demand and sets the price at fixed cost plus marginal cost plus modest profit.

1) First, the needed input for providing service, a license to operate wireless and provide a particular service, is a carefully controlled government franchise. No one can possibly offer a rival service without access to spectrum. This makes the market, for all practical purposes, uncontestable in the short term. The four

providers I have are all I've got for now. Worse, all existing players will have plenty of warning if some other player tries to break into the market.

From the perspective of the existing players, therefore, they face little risk of being blindsided from a new entrant or rival service. No one can offer mobility on similar terms without all the other players seeing it coming with lots of lead time. So the idea that *potential* competition would reign in price or other practices is eliminated from the equation.

2) Meanwhile, everyone in the game also knows the basics of every other player. The technologies are, by and large, similar and new technologies have long lead time. Everyone knows what the going rate is for labor in the field, what other parties hold in spectrum and what they paid for their spectrum, and other major expenses that go into the underlying cost structure. Yes, some aspects of the business vary — especially as between the vertically integrated players (AT&T and Verizon) as opposed to the non-vertically integrated providers and whatever deals the parties have cut with handset manufacturers. But, overall, every industry player has enough information to gauge the extent to which a rival could offer a radically different plan, further reducing any need to take precautionary measures against a potentially disruptive move.

In economic terms, this is an oligopoly. Washington regulators treat oligopolies as if they are the same as competitive markets, unless one can show definite evidence of collusion. But in reality, it doesn't always work out that way. Even absent collusion, the ability of players to engage in strategic planing can negate the anticipated benefits of competition.

3) To these factors we add two controlling factors on consumer behavior. First, the market for cell phone service is fairly mature at this point. By this I mean that

most people who are going to take the service has already done so. Second, switching providers — despite the ability to take a phone number with you — is very difficult. You often have to pay an early termination fee (ETF), and often cannot transfer a handset easily from one provider to another. These barriers to switching, what economists call switching costs or switching barriers, makes it very unlikely that customers will switch simply to save a few dollars on their monthly bill — because at any given time it is just too much of a pain in the neck to switch carriers.

4) Finally, because all players know so much about each other, and can all observe the same consumer behavior, they can each respond very quickly to any change that starts to pull away customers unless it involves a unique product such as the iPhone. So if switching to a particular pricing plan attracts customers, all market participants can switch to that plan. This is good for consumers in the short term. But in the longer term, it minimizes the incentive for any player to drastically alter their pricing plan. All players will have to live with the reduced profits (including the innovator), but without any substantial capture of market share.

This last point is true to some degree in any market. But in a more contestable market, competing entities have no choice but to cut price to the maximum because the dynamic nature of the market creates both a hope of capturing a large market segment for any innovation and a real risk that failure to match price or service innovation will result in a substantial and rapid loss of market share. In the cellular market, because so many factors act to create stability, each provider has incentive to make only moderate changes and to converge on plans and services over time.

So lets put these all together. When companies had to compete to attract new customers, total cost of a service package mattered. So companies developed cell plans with aggressively competitive prices. As we would expect, the cost of text messaging was lower. Then the market matured, so few people are buying contracts based on comparing prices. Now, for a customer to switch, it takes a difference between the old service and the new provider big enough to overcome the switching cost. That's not impossible. We saw it when AT&T got the iPhone, for example. We saw it when Sprint had integration issues with Nextel and customers got frustrated with the service problems. We see it with Verizon and AT&T against their rivals, because they have a number of advantages that flow from vertical integration and their superior spectrum holdings. But, by and large, we would not expect to see it for minor changes, like a dollar or two a month less for text messaging. So again, as predicted, we see the cost of text messaging rise.

Because of the market structure, we would expect the point the oligopoly sets the price to match the monopoly price with some modest variations reflecting the overall cost of service and differentiation strategy for each surviving member of the oligopoly. Keep in mind that even a monopolist cannot charge whatever it wants. Eventually, the elasticity of demand kicks in and charging too much loses you too many customers. Other factors that effect monopoly pricing include avoiding the ire of regulators. So again, we would expect that after a peak, text messaging prices would begin to stabilize and standardize across the industry based, not on the fixed cost plus marginal cost to the service provider, but on what the market will bear without too many members of Congress, FCC Commissioners, or state AGs getting angry letters from consumers.

This predictive model works for other behavioral and pricing issues in the CMRS market as well. Take early termination fees (ETFs). Once the market matures, it is in the interest of every provider to maximize lock in with early termination fees than to try to attact customers with a promise of no ETFs. While ETFs might alter your determination whether to buy a contract in the first place, it seems unlikely to alter your determination once you have a contract and your provider starts charging an ETF on every renewal. Worse, if you try to differentiate yourself by not charging an ETF, people will find it easier to leave your system but harder to leave rival systems. Therefore, we should expect that, absent regulatory intervention (or threat of same), that all providers will eventually charge ETFs.

Openness/Wireless *Carterfone* remains less clear. The ability to run any application on a network is a powerful incentive to switch. At the same time, as AT&T proved with the iPhone, the ability to attract and lock in customers with a very desirable device or application can be quite powerful. It may have crappy results as a matter of overall policy (fragmentation of the market, failure to achieve economies of scale, significant loss of consumer benefit from the inability to receive all desired goods and services without maintaining multiple networks), but from the standpoint of the network, closed might make more sense than open as a matter of pure profit maximization, and we should therefore not expect networks to voluntarily converge toward openness absent regulatory pressures.

But to circle back to text messaging. Our more sophisticated appreciation of the actual market — as opposed to idyllic theoretical market urged on us by the U of C school of counting (potential) noses to find competition — produces an explanation for text messaging prices that does not require collusion or even an absence of competition. Cell phone provider *do* engage in head-to-head competition. But, living in an oligopoly subject to certain market conditions and restraints, the form of this competition does not guarantee that prices will bear a substantial relationship to the cost of service. Instead, we can expect competitors to concentrate on preserving existing customers rather than trying to attract new customers from other providers by marginal changes in price and service package. This will cause the price of certain popular services that cannot be easily differentiated (except by price) to converge on the monopoly-efficient price point.

As a result, the rising, now stabilizing, price of text messaging is (a) entirely predictable, (b) does not result from lack of competition, and therefore (c) cannot be remedied other than by regulatory action or the threat or regulatory action.

But Is This Really A Problem?

At this point, I usually get a response that some people do, in fact, switch so its all a matter of individual choice and markets are really competitive blah blah. To which I reply with a great big DUH!, and note that we are once again back in the binary fallacy of framing this as a competition issue that gets answered by whether or not competition actually exists rather than based on what impact the presence of competition has in the real world. If this is a moral argument about free will, then the ability to switch despite high switching costs resolves the argument. But if the question is “how will rational CMRS providers respond to this set of market realities, and do I like those results as a matter of public policy.”

Because that is the actual question. It's not a “market failure” problem because the market is working just fine. It just won't produce particularly low prices for text messaging. Trying to keep a pedestrian from getting hit by a car is not a “mechanical failure.” If I tried to fix it by determining whether I was making “safe” cares, I would never solve the problem and people would still get hit by cars. But if I treat it as a behavioral issue that I regulate with traffic lights and street crossings, I can seriously reduce the number of accidents.

There are a lot of reasons we might decide we don't care that cell phone companies are getting $15 bucks a month for all you can eat text messaging — over and above the cost of an “all you can eat” voice plan (since text msging minutes generally count against the voice minutes, and if you exceed your voice minute quota you will still get nailed for “all you can eat” texting) — is not a problem. or at least, not one we care about as a matter of public policy. I am sure some clever anti-regulatory economist will bring up Ramsey Pricing and argue that the surplus enjoyed by cellular providers on text messaging subsidizes basic service. The trouble with this theory is that it has absolutely zero evidence to support it. Ramsey Pricing was developed in the context of regulated monopolies and rate-or-return regulation. it amounts to an argument that in the case of a natural monopoly, we should only regulate basic services and allow the natural monopolist to enjoy the profit of “luxury” services to subsidize basic services.

But absent regulation, companies do not generally use profits from one area to subsidize unprofitable activities. Generally, companies seek to maximize profit by offering services with high margins and avoiding services with low margins to the extent possible. A firm might use the profits from text messaging to subsidize cost elsewhere if it were rational to do so. But for the reasons discussed above, it confers no advantage to any member of the oligopoly to subsidize services with profits from SMS text messaging because all other players face similar cost structures and therefore will all converge on the same price — which here should be close to the monopoly price.

Still, we may not care as a matter of public policy. For one thing, consumers seem to be willing to pay it. This takes us back to "the market is always right because if people didn't want it, they wouldn't buy it" framing. But that framing is not always wrong. People pay huge sums of money for thing like Hannah Montana concert tickets, whereas I would pay good money to be allowed to leave. Is SMS text messaging really such an important service — or does availability have such important consequences — that I should, as a society, go to the expense to regulate the oligopoly price?

Nor is this a case where providers built a network subsidized by a government monopoly and guaranteed rate of return. OK, AT&T and VZ do have some choice legacy spectrum they got for free. But not enough, perhaps, to justify regulating SMS text messaging as a matter of unjust enrichment. OTOH, the fact that the federal government ensures that no one can offer service without a license for spectrum does make the market uncontestable. So it is perhaps not unreasonable to prevent these government licensees from fleecing the public overmuch.

Basically, it boils down to whether we think — in the language of [Section 201 of the Communications Act] — charging the oligopoly price constitutes an "unjust" or "unreasonable" charge or practice. That's a policy decision, not a question of counting competitors. Yes, Section 201 dates back to the day of the regulated monopoly. But, as I hope I have demonstrated above, we do not face a binary choice between "enough competition" and "not enough competition." We face the choice of what world we want to see. A monopolist may provide services at reasonable rates and practices even absent regulation (although I find this much less common than some here in Washington do). By the same token, even a market deemed "competitive" under modern antitrust sensibilities may not provide services at just and reasonable rates and practices without regulatory oversight.

To conclude, look at the banking industry. "When banks compete, you win" turned out to be true in the short term for high-risk borrowers seeking subprime loans, but not for the economy in the long run. That parties with bad credit would seek the lenders willing to offer them terms because they intended to flip the loans was as utterly predictable as an actuarial table for setting life insurance rates, but we let it happen because we "trusted the market" and the forces of competition. Insurance companies that use actuarial tables know better. Some obese smokers live to be 100 years old (I hope!), but insurance companies don't set rates based on this theoretically possible case. Cellular providers do compete with one another in certain ways. But don't expect text messaging prices to reflect actual cost as a result. Like the insurance company using an actuarial table, regulators need to keep an eye on how the majority of people behave and how that impacts real world behavior, not contemplate some happy theoretical outcome.

Unless we decide, as a matter of policy, that it isn't a problem and we don't care. That's a perfectly plausible policy choice — but then don't bitch and whine about high SMS text messaging prices. There is no competition fairy, and the Gods of the Marketplace do not care one whit for your devotionals and prayers. Absent regulatory intervention, the price of SMS txt messaging (and other things, like ETFs) will predictably remain at what the market will bear. Not because of some conspiracy, but because the cold equations of economics so dictate. So either do something regulatory about it or quit your bitching.