

The Economics of Bidder Exclusion Rules: A Response to Dr. Baker

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Pursuant to the Middle Class Tax Relief and Job Creation Act of 2012, the Federal Communications Commission (“FCC”) has instituted a proceeding to design a voluntary incentive auction aimed at repurposing broadcast television spectrum to mobile communications services.¹ After the initial pleading cycle closed, the United States Department of Justice (“DOJ”) filed an ex parte presentation in the docket which encouraged the FCC to use the auction as a tool to manipulate industry structure. In particular, the Department called for the Commission to equalize competition in the industry by placing limits on the ability of the largest and most spectrum-constrained mobile wireless providers—AT&T and Verizon—to acquire additional spectrum in the auction.² As the DOJ concedes, its proposal aims “to design [] the wireless telecommunications market”³ by manipulating the auction to favor the two smaller nationwide providers of mobile wireless service in the hopes of increasing the smaller firms’ market shares.

Given the significance of the DOJ’s proposed intervention into the auction’s design, we authored a paper entitled *Equalizing Competition Among Competitors: A Review of the DOJ’s Spectrum Screen Ex Parte Filing*, where we provided a thorough assessment of the DOJ’s legal and economic arguments (or lack thereof) for manipulating the auction.⁴ Among other points, we criticized in detail the Department’s

claim that the mere presence of its undefined and unanalyzed concept called “foreclosure value” justified its proposed interventions.

Recently, T-Mobile (one of the intended beneficiaries of the DOJ’s policy proposal) had its economic expert, Professor Jonathan Baker, file a formal comment on our *Equalizing Competition* paper in the incentive auction docket at the FCC.⁵ The purpose of this PERSPECTIVE is to address Professor Baker’s comments.

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After review, it appears that Dr. Baker levies two general criticisms of our work. First, Dr. Baker claims that we “simply assum[e] away” issues of foreclosure value. Second, Dr. Baker contends that we argue that “incremental spectrum should be awarded to the largest firms.” In both cases, we do no such thing, and for Dr. Baker to argue otherwise is a gross mischaracterization of our paper.

More significant than his inaccurate critiques, however, is Dr. Baker's continued reliance on nothing but speculation and assertion to support his positions. Like the DOJ, Dr. Baker has yet to define the concept of foreclosure value upon which his argument rests, much less subject his proposals to the discipline of a formal economic model. In fact, our recent BULLETIN is the first and only effort to define foreclosure value and assess its implications for the spectrum auction in the context of a standard economic model of competition. Accordingly, while we appreciate Dr. Baker's interest in our work, his unsupported arguments—similar to those made by the Department of Justice—add nothing substantive to the Commission's difficult task of designing the voluntary incentive auction.

A Brief Review of *Equalizing Competition*

Professor Baker's review of *Equalizing Competition* was limited to the analysis contained in Section II of our paper. To give an accurate context to Dr. Baker's critique, we provide a brief overview of the analysis contained in that section.

The express purpose of *Equalizing Competition* was to evaluate in a rigorous way the DOJ's recommendation to the FCC to design the voluntary incentive auction so that that Sprint and T-Mobile end up winners, and we conduct our analysis on the agency's own terms.⁶ The DOJ's proposal is unquestionably aimed at "equalizing competition among competitors," a goal plainly incompatible with legal precedent (see Section IV of our *Equalizing Competition* paper), but Dr. Baker does not challenge that fact.

At the center of the DOJ's argument is the concept of "foreclosure value," which, despite its critical importance to the DOJ's recommendation, the agency never bothers to define or to analyze. In an effort to remedy these profound shortcomings in the DOJ's filing, in Section II of *Equalizing Competition* we provided an economic definition of foreclosure

value, and then considered the implications of foreclosure value on auction design using a popular economic model of competition—the Cournot Model of competition. We used the Cournot Model because it is the DOJ's benchmark model of competition; it is the basis for the HHI triggers that the Department uses as a decision mechanism for merger evaluation; and, as such, it motivates the DOJ's recent evaluations of the mobile wireless market.

If bidder restrictions are to be seriously considered, then the abuse of the regulatory system to hinder more efficient rivals must also be explicitly considered. Indeed, legal precedent requires it. The case law is clear—for both the FCC and the DOJ—that policy must be designed to protect competition and not individual competitors.

Significantly, our paper was the first and only effort to define foreclosure value, and the first and only effort to evaluate foreclosure value using an economic model of competition. To date, and to my knowledge, this exclusivity remains intact.

Recognizing the limitations of economic models, we did not make strong recommendations to the FCC about its spectrum policies, but concluded as follows:

While admittedly a simplistic depiction of the mobile marketplace, this simulation is vastly superior to the total lack of any analysis offered by the DOJ to the FCC in its *Ex Parte* filing. And unlike the DOJ, we do not make strong recommendations to the FCC about its spectrum screen, but merely issue a word of caution on the blind acceptance of the Department's recommendations that rest on a demonstrably incomplete conceptual framework. *** Also,

while the simulation is based on a rather simple model, we believe it (or something like it) to be rigorous enough to serve the role of establishing a presumption with regard to spectrum policy.⁷

Limiting participation in the auction by the largest, and most spectrum-hungry wireless companies is a big decision and is expected to significantly curtail auction revenues; such a decision deserves more effort than the speculations and assertions that fully encompass the work of both the DOJ and Professor Baker.

Our analysis of the problem revealed (at least) three key points. First, the driving issue in spectrum allocation is not “foreclosure value” but “use value.” As we conclude,

... it is the differences in use value, not merely the presence or absence of foreclosure value, which determines the efficiency of the auction results. Larger, more efficient carriers should be expected to have higher use values, other things constant, than will smaller, less efficient carriers, and thus consumer welfare will be larger from an open auction.⁸

Unlike the DOJ’s and Professor Baker’s assertions, economic theory suggests that the largest firms are expected to have the largest use values, and thus the presence or absence of “foreclosure value” is alone insufficient to guide auction design.

Second, our model reveals that foreclosure value is not limited to the larger firms; *all firms have foreclosure value*. In fact, the foreclosure value of the smaller firms may exceed that of the larger firms. It may very well be that the restrictions encouraged by Sprint and T-Mobile have more to do with handicapping AT&T and Verizon than vice-versa (as the DOJ and Dr. Baker contend). If bidder restrictions are to be seriously considered, then the abuse of the regulatory system to hinder more efficient rivals must also be explicitly considered. Indeed, legal precedent requires it. The case law is clear – for both the FCC and the DOJ – that policy must be designed to protect competition and not individual competitors.⁹

Third, the apparent goal of the DOJ is to use the auction to shift market share to Sprint and T-Mobile under the errant belief that this change in shares somehow implies a more competitive outcome. Yet, economic theory reveals that market shares are not always a legitimate proxy for consumer welfare (even in the Cournot setting). In our model, consumer welfare rises as industry concentration rises, since the change in market shares is the result of increased efficiency.

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Admittedly, our analytical model was simple and abstract. Still, it is to date the exclusive economic analysis of foreclosure value. Recognizing its limitations, we did not make strong recommendations, but offered the following conclusion:

How the Commission should use or modify its spectrum screen is a complex issue and is not the purpose of this BULLETIN, but we do find the Department’s economic foundation for manipulating auctions via some sort of incumbent exclusion rules to be very weak. The DOJ’s “foreclosure” argument is alone an inadequate justification for intervention and its depiction of the industry suggests its recommendations may be counterproductive.¹⁰

Given the total absence of any analytical alternative to our approach, we believe our conclusion remains valid.

Professor Baker's Comments

In his four-page response to our 21-page detailed economic and legal analysis, Dr. Baker offers two criticisms. His first comment relates to the relevance of foreclosure value; the second relates to the assertion that we conclude the spectrum is best given to the largest firms. As we show below, neither criticism is valid.

Foreclosure Value

On the question of foreclosure value, Dr. Baker claims we deal with it by “simply assuming away the foreclosure problem.”¹¹ Obviously, nothing could be further from the truth. Section II of *Equalizing Competition* is devoted entirely to the detailed analysis of foreclosure value. Not only are we the only people in the debate to have bothered to provide a formal definition of foreclosure value (in Section II.A), we are the only people in the debate to have bothered to evaluate foreclosure value using a standard economic model of competition (in Section II.B). It is by far more accurate to say that Dr. Baker and the DOJ have assumed away “use value” than to say we have assumed away “foreclosure value,” mainly because the former is demonstrably true and the latter is demonstrably false.

Dr. Baker's attempt to cast doubt on the relevance of our chosen competition model (the Cournot Model) is likewise not compelling.¹² While models of competition can get very sophisticated, the basic Cournot Model is nearly always the starting point for analysis at both the DOJ and the FCC. Also, while critical of the assumptions of the model, Dr. Baker fails to demonstrate that changing any of the assumptions would lead to strong evidence in support of his recommendations. Nor does Dr. Baker provide an alternative model that shows that giving spectrum to the smaller rather than the larger carriers will improve consumer welfare. Indeed, *Dr. Baker provides zero economic analysis*, but chooses instead to rely on nothing more than speculation and assertion, assuming

by some magic that consumer welfare is higher if Sprint and T-Mobile get more spectrum in the upcoming auction and AT&T and Verizon do not. Given the total lack of analytical rigor to his arguments (and the DOJ's for that matter), it is not possible for me to accurately assess Dr. Baker's speculations and assertions about the benefits of his proposals.

That said, even if Dr. Baker did offer an alternative analytical framework—which he does not—it is not clear his analysis would be properly motivated. Specifically, Dr. Baker argues that the goal of policy is “lower consumer prices and greater consumer surplus,”¹³ but every economist knows that consumer surplus is not the standard by which policy is judged. Rather, consumer welfare is the standard, and consumer surplus is only a part of consumer welfare. As demonstrated in Section II of *Equalizing Competition*, consumer surplus is an unreliable proxy for consumer welfare.

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Similarly, take for example Dr. Baker's statement that “smaller firms would use new spectrum to compete more vigorously with larger ones.”¹⁴ Thus, Dr. Baker appears to argue that if Sprint and T-Mobile are permitted to

spend billions more on spectrum, they will then choose to compete more aggressively on price. However, intense price competition in a market characterized by high fixed and sunk costs typically leads to the death of weaker competitors.¹⁵

Dr. Baker's apparent belief in a radical change in competitive interaction is, like all his claims, purely speculative, and also contrary to market evidence. As I see it, the burden is on Dr. Baker to demonstrate that obtaining an unspecified amount of spectrum in the upcoming auction will somehow radically alter the competitive interaction of firms that have competed vigorously over many decades, with Sprint and T-Mobile unable to make any significant inroads. History suggests it is every bit (if not more) legitimate to argue that AT&T and Verizon will radically alter the competitive landscape after obtaining the broadcast spectrum as it is to assume Sprint and T-Mobile will do so.

Even if such a showing was possible under plausible conditions, such a demonstration is inadequate to justify Dr. Baker's recommendations. If AT&T and Verizon get the spectrum, then the industry will also change as a result of increased efficiency, and the value of these changes, measured as increases in consumer welfare, must be compared across relevant potential outcomes. What Dr. Baker consistently ignores is that society will benefit if AT&T and Verizon get more spectrum, even if Sprint and T-Mobile don't get any. There are tradeoffs, and tradeoffs require more than speculation to resolve. While limited in some ways, our analysis considers the tradeoffs and properly assesses alternatives on consumer welfare grounds. We do so without resorting to speculations that are at odds with economic theory and the material facts. If one does not like a particular assumption we make, then that assumption should be changed and the implications of that change calculated with the

model. Disagreement with an assumption is not a legitimate basis to rely on pure speculation.

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Dr. Baker also challenges our assumption (or, rather, the assumption of the Cournot Model¹⁶) that firms with smaller market shares have higher costs than firms with larger shares, arguing that this "assumption implies that smaller wireless services firms must be markedly less efficient than larger ones."¹⁷ Efficiency, in the model, is measured as a difference between prices and cost. On this point, we can turn to industry evidence. In the FCC's latest *CMRS Report*, the FCC reports that the larger providers have (estimated) free cash flow levels per subscriber significantly larger than the smaller carriers in the past five years despite small differences in average revenue per user.¹⁸ The larger carriers also have seen relative subscriber additions than the smaller firms.¹⁹ If firms have similar average revenues, higher margins, and faster subscriber growth, then the presumption should be that the larger firms are more efficient. The assumption of superior efficiency is a reasonable one.

Spectrum Should be Awarded to the Largest Firms

Dr. Baker's second criticism of our paper relates to his claim that we conclude "that incremental spectrum should be awarded to the largest firms."²⁰ We conclude no such thing. As we state up front in the Abstract of our paper,

... there are good reasons to suspect the use value of larger carriers exceeds that of smaller carriers. Economic theory therefore suggests the presumption should be in favor of non-interference.

Our argument is simply that absent compelling evidence, spectrum should be auctioned to the highest bidder. It is not the Phoenix Center, but Dr. Baker and the DOJ who wish to “award” spectrum to particular entities by converting the incentive auction into a thinly-veiled comparative hearing.

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Dr. Baker also contends that we assume “that smaller firms cannot lower costs ... as much as larger firms through a given spectrum block acquisition.”²¹ This statement is demonstrably false. We assume, in our benchmark case, that the cost reduction of large and small firms is identical.²² In an odd twist of logic, Dr. Baker then criticizes our model for assuming that the cost reduction is the same, and argues that the smaller carriers will realize greater cost efficiencies than the larger carriers for a given block of spectrum. Again, Dr. Baker’s claim is pure assertion and he provides not a drop of evidence to support it. Of course, Dr. Baker could have made such an assumption and traced its implications in his own model if he had one. He does not; so again, I will do what he and the DOJ have not done by evaluating the importance of this speculation.

In our model, the smaller carriers would need to realize more than three-times the cost reduction relative to the larger carriers to make society indifferent about who gets the spectrum.²³ Thus, a standard model of competition suggests that the relative efficiency of the smaller carriers must be very large to bias the auction in their favor. Supporting such efficiency claims would be very difficult, which is perhaps why Dr. Baker does not even try to do so and chooses instead merely to assume the outcome he prefers.

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Dr. Baker attempts to hinge his efficiency argument on the claim that wireless services “typically can be provided more efficiently using a mix of low and high spectrum frequencies rather than using either frequency exclusively.”²⁴ His argument is not compelling. First, note that he uses the word “typically.” In this context, a word like “typically” cries out for a more in depth analysis, which Dr. Baker does not provide. Second, the efficiency consequences of using low and high frequency spectrum presumably apply to both large and small carriers. While Dr. Baker claims that the broadcast spectrum “would be expected to increase production efficiency more for small provides than for large ones,”²⁵ he provides no evidence to support it, instead choosing to cite the purely speculative arguments found in the

DOJ's *Ex Parte* filing. Moreover, even if the spectrum increased the efficiency of the smaller carriers more than the larger carriers, this fact does not imply automatically the spectrum should go to the smaller carriers. Since AT&T and Verizon would also realize an efficiency, and that efficiency affects many more subscribers, there's a trade-off to consider. As noted above, even if the smaller carriers were twice as efficient with the broadcast spectrum as were the large carriers, in our simulation society would be better off if the spectrum went to the larger carriers. This type of finding is why an analytical approach to the problem is essential.

Speculation and assertion are very poor guides for policymakers. It is not unreasonable to expect the DOJ and those seeking favored status in the upcoming incentive auction to do some analytical heavy lifting.

to expect the DOJ and those seeking favored status in the upcoming incentive auction to do some analytical heavy lifting.

In *Equalizing Competition*, we did what Dr. Baker and the DOJ would not, defining foreclosure value and using a standard model of competition to assess its relevance. Like it or not, our effort is today the only analytical basis upon which to base policy on bidder exclusions, and the analysis points clearly to an open auction.

Conclusion

Where's the beef? One cannot help but ask this question after reading Dr. Baker's or the DOJ's filings on the upcoming voluntary incentive auction. Excluding or limiting participation of the largest and most spectrum-hungry wireless companies is a big deal. At a minimum, such rules will significantly reduce auction proceeds. The burden, therefore, is on those promoting such regulations to demonstrate that the benefits to society are more than sufficient to offset the losses. Neither Dr. Baker nor the DOJ has taken that burden seriously, offering the Commission nothing but speculation and assertion to support their positions. Neither had the courtesy to provide a formal definition for the concept of "foreclosure value" upon which their arguments rest, and upon which others could evaluate their claims. Speculation and assertion are very poor guides for policymakers. It is not unreasonable

NOTES:

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¹ Middle Class Tax Relief and Job Creation Act of 2012, Public Law 112-96 (February 22, 2012) (available at: <http://www.gpo.gov/fdsys/pkg/PLAW-112publ96/pdf/PLAW-112publ96.pdf>).

² *In the Matter of Policies Regarding Mobile Spectrum Holdings, Ex Parte Submission of the United States Department of Justice*, WT Docket No. 12-269 (April 22, 2013) (available at: <http://apps.fcc.gov/ecfs/document/view?id=7022269624>) (hereinafter “DOJ Ex Parte”). It should be noted that the DOJ conceded that they made their filing after close and “quiet[]” cooperation with the Commission. See L. Spiwak, *It’s Time for FCC/DOJ Inter-Agency Cooperation to Come into the Sunlight*, @LAWANDECONOMICS (May 2, 2013) (available at: <http://phoenix-center.org/blog/archives/1356>).

³ DOJ Ex Parte, *id.* at 2.

⁴ G.S. Ford and L.J. Spiwak, *Equalizing Competition Among Competitors: A Review of the DOJ’s Spectrum Screen Ex Parte Filing*, PHOENIX CENTER POLICY BULLETIN No. 33 (May 2013) (available at: <http://www.phoenix-center.org/PolicyBulletin/PCPB33Final.pdf>). As per our custom, we also followed up this paper with a blog to better explain our work to a more general audience. See G.S. Ford, *Arguments for Bidder Exclusion Rules Remain Weak and Inconsistent*, @LAWANDECONOMICS (June 20, 2013) (available at <http://phoenix-center.org/blog/archives/1408>).

⁵ J. Baker, *FCC Spectrum Allocation Rules That Promote Competition Are in the Public Interest, Ex Parte* filed on behalf of T-Mobile in FCC Dockets No. GN Docket No. 12-268 and WT Docket No. 12-269 (filed July 8, 2013) (available at: <http://apps.fcc.gov/ecfs/document/view?id=7520928835>) (hereinafter “Baker Critique”).

⁶ DOJ Ex Parte, *supra* n. 2 at 18.

⁷ *Equalizing Competition, supra* n. 4 at pp. 10-11.

⁸ *Id.* at pp. 9-10.

⁹ For a full analysis of the caselaw, see *Equalizing Competition, supra* n. 4, at Section IV, as well as T.M. Koutsky and L.J. Spiwak, *Separating Politics from Policy in FCC Merger Reviews: A Basic Legal Primer of the “Public Interest” Standard*, 18 COMM.LAW CONSP. 329 (2010) (available at: <http://www.phoenix-center.org/papers/CommLawConspectusMergerStandard.pdf>).

¹⁰ *Equalizing Competition, supra* n. 4 at 21.

¹¹ Baker Critique, *supra* n. 5 at p. 2.

¹² *Id.* (noting our reliance on “homogenous product, linear demand, constant marginal cost, and a Cournot oligopoly solution concept”). Dr. Baker’s associated claim that the HHI is relevant in differentiated markets is meritless.

¹³ *Id.*

¹⁴ *Id.*

¹⁵ See, e.g., G.S. Ford, T.M. Koutsky and L.J. Spiwak, *Competition After Unbundling: Entry, Industry Structure and Convergence*, 59 FEDERAL COMMUNICATIONS LAW JOURNAL 331 (2007).

¹⁶ In the Cournot Model, differences in market shares arise from differences in marginal cost.

¹⁷ Baker Critique, *supra* n. 5 at 2.

¹⁸ See *In the Matter of Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993 Annual Report and Analysis of Competitive Market Conditions With Respect to Mobile Wireless, Including Commercial Mobile Services*, FCC 13-34, SIXTEENTH REPORT (rel. March 21, 2013) (hereinafter “Sixteenth CMRS Report”) at Chart 37.

¹⁹ *Id.* at Chart 39.

²⁰ Baker Critique, *supra* n. 5 at 3.

NOTES CONTINUED:

²¹ *Id.*

²² *Equalizing Competition, supra* n. 4 at 8 (“As a first scenario, assume that the two large firms get the spectrum and realize a reduction in marginal cost of 1.00. ... The other option is to give the spectrum to the two smaller firms so that each realizes a 1.00 reduction in marginal cost.”).

²³ Consumer welfare is equal if the smaller carriers have a \$3.30 cost reduction and the large carriers have only a \$1 cost reduction.

²⁴ Baker Critique, *supra* n. 5 at 3.

²⁵ *Id.*