Whitepaper No. 15501

Of Rent-Seekers and Ride-sharers:

An Analysis of Uber and Lyft's Impact on the Taxicab Industry

December 17, 2015

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EXECUTIVE SUMMARY

Uber and Lyft have recently been cited as a threat to the viability of the cartel status gained by the taxicab industry through the implementation of government regulation. Perhaps unsurprisingly, livery industry members and some consumer advocacy groups quickly responded by calling for regulations on the new industry.

Utilizing public choice analysis, this paper investigates the potential impact of ridesharing on the taxicab industry. The paper examines the origins of regulation in the taxicab industry, the current transitional gains trap, and the incentive of current owners and other interest groups to maintain the status quo.

The paper analyzes the taxicab industry's response to ridesharing as a test of the theory of disruptive innovation. Peer-to-peer ridesharing represents the kind of technological innovation that the literature hypothesizes could be an impetus for deregulation. The paper explores the conditions that one can expect to see for ridesharing to trigger deregulation of the taxicab industry. Within this context, deregulation seems to be a function of changes caused to various actors by technological innovation.

The study identifies several conditions under which to expect this disruptive innovation to force deregulation of the taxicab industry. A cursory examination of 13 representative cities finds that the proposed model of innovation undermining existing regulatory regimes offers a great deal of descriptive potential, but little predictive power. This may be due to the inability of any single entity to fully capture a regulatory agency, making predictive analysis more difficult.

Relevant institutions, participants, and special interest groups are identified for how they might respond to Uber and Lyft's entry into the market. This group includes traditional taxicab owners, medallion owners, taxicab drivers, consumer advocacy groups, and regulatory agencies. Each group has specific reasons to respond to ridesharing, but taxicab owners, both of the companies and the medallions, are expected to be the most likely group to oppose ridesharing and promote some type of regulation to restrict entry into the market. Ridesharing has already decreased the value of medallions in several markets.

One could predict that ridesharing be banned only in jurisdictions with a particularly set of invested economic interests as outlined in the study. Theory would suggest that ridesharing does in fact have the potential to disrupt existing political alliances enough to allow a new entrant into the market. But with plenty of interests to protect within traditional taxicab participants, it appears more likely that ridesharing will trigger a new round of regulations.

INTRODUCTION

Beginning with the launch of the ridesharing service Uber in 2010 and Lyft in 2012, industry and regulatory analysts have debated what exactly the implications of ridesharing may be for the taxicab industry. Many have noted that ridesharing could greatly disrupt the traditional taxicab structure. Perhaps unsurprisingly, livery industry members and some consumer advocacy groups quickly responded by calling for regulations on the new industry.

One explanation for the industry's reaction may be found in the theory of rents, first presented by Gordon Tullock in his seminal 1967 article, "The Welfare Costs of Tariffs, Monopolies, and Theft." Tullock (1967) launched a large research agenda in the field of public choice focused on how market players use regulations to extract political rents from markets. In some cases, rent-seekers can effectively create monopolies in industries where few, if any, of the traditional conditions of natural monopolies exist. The taxicab industry is frequently cited as the paradigmatic case of an industry that should be highly competitive, yet is heavily regulated, raising the barrier to entry (Crew & Rowley 1989, 5). The classic literature in public choice suggests that once rent-extracting regulation becomes established in an industry, it is incredibly difficult to undo. Perhaps one of the few ways to successfully break the rent-extraction cycle is through disruptive innovation, which changes the industry so drastically as to shift the status quo.

This paper uses the taxicab/rideshare scenario as a test of the theory of disruptive innovation. Using existing literature as a guide, the relevant institutions and players are identified and analyzed for how they might respond to Uber & Lyft's entry into the market. Further, the paper provides cursory data from 13 representative cities to provide some context for discussion. The final section comments on the findings and possible research agendas moving forward.

OVERVIEW

Much ink has been spilled on the topic of rent-seeking in regulation over the past 50 years. A fairly clear evolution of progress is evident in the literature, as the original and naive Public Interest theory of regulation gave way to the Capture Theory, which gave way to a series of economic theories, which finally coalesced into what we might now call the public choice theory of regulation (Crew & Rowley 1989, 6-11). The central insight of the public choice theory of regulation is that special interest groups introduce bias into political markets, since it is easier for relatively small groups of individuals with closely aligned interests to organize and seek influence over lawmakers (Crew & Rowley 1989, 11). Arguably, these biases would lead to inefficiencies even if transaction costs were non-existent. But Gordon Tullock demonstrated in his 1967 paper that transaction costs for rent-seeking are far from non-existent and are in fact much larger than most economists had previously estimated because a rent-seeker will be willing to expend up to his expected rents in obtaining them (Tullock 1967, 228-229).

Tullock's observation of dissipated rents lead to his theory of the "transitional gains trap." In the long run, Tullock argues, normal profit is still the only attainable equilibrium (Tullock 1975, 671). This is true not only because of the owner's willingness to dissipate his own rents to maintain monopoly status, but because, over time, the monopolized industry will become valued in such a way as to account for the monopoly profits (Tullock 1975, 672). Any new person buying into the market will be willing to pay an amount up to the value of the monopoly

rent, guaranteeing him only normal profits. There are two unfortunate conclusions that can be drawn from this. First, even though the monopoly industry will not actually earn rents in the long run, from a societal viewpoint resources are still being inefficiently allocated. Second, even though this inefficiency is undesirable, and the industry may not actually be capturing rents, deregulation would cause a sudden depreciation and loss to any individual's investment in the industry. This means the industry will still value the regulation up to the original amount of the rent. It also presents the classic paradox of the literature: given the fact that rents are generally captured by comparatively smaller groups at the expense of a larger group, and thus individuals in the smaller group always have more to lose from deregulation than any individual in the larger group has to gain, how is deregulation even possible?

This picture is further made darker by a contribution from Tollison and Wagner, who conclude that, whether a monopoly is first gained "passively" or "actively," whether one looks at a single time period or over multiple, any person whose primary concern is maximizing social utility will almost always find deregulation as a losing battle, due to the costs associated with winning back the rents (Tollison & Wagner 1991). It is only to so-called factional reformers, who have a particularly strong interest in only a subset of the population (to which he may nor may not belong) and who can ignore the costs to the monopolists that fighting for deregulation makes sense (Tollison & Wagner, 65). The authors conclude much the same as Tullock: it is more rational simply to focus on preventing future gains traps from occurring.

Despite these dire pictures, deregulation has occurred. Writing in 1989, Peltzman examined areas that had seen deregulation over the past decade, comparing the results to what one would expect given an economic theory of regulation. While the results in support of the economic theory are mixed, Peltzman does contribute a couple useful points to our discussion. First, he reminds us that the regulatory bodies, not just the individuals lobbying them, are utility maximizing. As such, we would expect a body to distribute regulatory benefits in such a way as to maximize its political utility, thus making it unlikely that any "single economic interest captures a regulatory body (Peltzman 1989, 9)." Second, his entry/exit model for regulation rests on politicians seeking politically rewarding fields to regulate and abandoning those which are not as rewarding (Peltzman 1989, 15). Therefore, anything which alters the political or economic situation of an industry in a particular way may be a possible impetus for deregulation.

Which of the potential factors is most likely to trigger deregulation is a matter of some debate. Bruce Yandle focuses on the nature of intertwined interests of various groups and therefore stresses the classic 'Bootleggers and Baptists' theory that regulation is often most successful when two distinctly separate groups support it for distinctly different reasons (Yandle 1984, 1002). Generally, it is best if one of the groups is motivated for moral reasons. Yandle posits that if something were to alter the relative value to one of the original interest groups (theoretically almost always the 'moral' group, but not necessarily) then that group may no longer support the regulation, and even turn against it, leading to its downfall (Yandle 1984, 1011). This idea is expounded upon in Yandle & Smith's recent book, in which they examine historical examples of Baptist and bootlegger relationships, including alcohol prohibition: "When change is in the air, it is also time for Baptists to rethink their strategies and sometimes break off their support for past regulation" (Smith & Yandle 2014, 107).

Building on this line of thinking, Foldvary and Klein (2002) suggest that the single most likely factor to alter the preferences of one of the groups is technological innovation. They argue that one of the largest reasons people call for and justify regulation is due to some form of market

failure, generally stemming from large transaction costs or asymmetric information. Technological innovations, however, can go a long way in reducing the transaction costs and making market information symmetrical, undercutting the rationale attributed by many consumer advocates and forcing politicians to rethink and change current policy. Their argument is essentially an application of Joseph Schumpeter's "creative destruction" and is bolstered by the work of Diana Thomas (2009), who demonstrated that the deregulation of beer-making in the city of medieval Cologne can be traced to technological improvements. Thomas concludes that Tullock's transitional gains trap applies in static markets but may be broken in the long run.

Finally, of note is the work of Ross Eckert (1973), who stresses that the particular nature of the regulatory institution may be impactful on the outcome of regulation. Interestingly, Eckert uses taxi regulation as his example, which is unsurprising given that taxicabs show none of the classic signs of natural monopoly and so present the perfect example of 'inefficient regulation.' Eckert suggests that the utility-maximizing actions of a regulatory agency's individuals differ based on the structure of the agency (Eckert 1973, 83). As an example, he stresses that a regulatory commission, generally composed of individuals whose work for the agency is part-time, will be less inclined to regulate new industries than a bureaucracy whose members stand to gain potentially greater political reach and a larger budget.

ANALYSIS

The question before us now is whether peer-to-peer ridesharing represents the kind of technological innovation that the literature hypothesizes could be an impetus for deregulation. More properly stated, under what conditions would we expect to see peer-to-peer ridesharing trigger deregulation of the taxicab industry? Unfortunately, few contributors to the literature claim any predictive power, and as Peltzman (1989) notes "the methodological pitfalls of evaluating theory by forecasting ability are well known." Still, if the theories offered in the literature are at least partially correct, and retrospective evidence suggests they are, then we should expect them to provide us some forward-looking insight. While many writers have tended to focus on in-depth analysis of one particular set of actors in the market for regulation, it appears more likely that deregulation is a function of the changes caused to the various actors by technological innovation. This analysis will not attempt to estimate any sort of logistic regression for deregulation here. We can, however, arguably treat the impact to various actors as a sort of 'diagnostic checklist,' not unlike those used to provide a cursory health evaluation for any number of diseases and disorders. Just like a health checklist, checking a certain number of boxes is not sufficient to guarantee deregulation will occur, but it should increase our expectations about the likelihood of it occurring. In what follows, I attempt to create such a diagnostic checklist by identifying the institutional actors and the impact a new competitor outside the existing regulatory framework may have on them, comparing my theory to the cursory data currently available.

The literature provides guidance for the most important actors to examine. First and foremost, we need to understand how exactly peer-to-peer ridesharing is innovative. This is key because the response of actors to the innovation is contingent upon how the technology impacts their incentive structure. We must also study all of the special interests involved, meaning both the subset of the industry with an economic interest and any other groups that may have initially supported regulation for other reasons. Finally, we will examine the structure and incentives of the regulatory body. It is worth stating here that we have chosen not to analyze directly

legislative bodies for two reasons. First, there is so great a difference between the various state and municipal legislative bodies and the institutions that guide them that trying to examine them directly and draw any broad conclusion would be messy and likely not very useful. Second, these legislative bodies may be assumed to enter the analysis indirectly, as they have either ceded a great deal of their regulatory authority to an agency or rely heavily on its recommendations when writing regulation.

What makes peer-to-peer ridesharing innovative? The main players, Uber and Lyft, follow essentially the same model. Using a smart phone application, people request a ride at their location and are matched with a nearby driver. After they arrive at their destination, their pre-entered credit card is charged for the ride. Finally, both the passenger and driver rate each other. If either gives the other a low rating, they are never matched again. Outside of utilizing a smartphone, how is this innovative? It all boils down to fixing asymmetric information in the markets, which was one of the reasons taxi regulation was originally popular. As Foldvary and Klein note, "as consumers demand assurance, however, voluntary market processes find ways of providing it (Folvardy & Klein 2002, 85)." First, by providing ratings and reviews of individual drivers and passengers, the apps provide a quality control that actually exceeds that of the regulated taxi companies. Further, riders can receive an estimate of their final cost by entering their destination. Most importantly, perhaps, both major ridesharing companies engage in surge pricing, allowing their fee structure to respond to the forces of supply and demand. For both apps, when the demand for rides exceeds current drivers, surge pricing goes into effect, enticing more drivers into service. Conversely, Lyft also offers "Happy Hour" pricing, which is below-standard rates when demand is particularly low. This kind information symmetry would have been costly to attain prior to the rise of current technology.

An attempt to measure the possible demand for rideshare services in the population of each city provides perhaps one of the most interesting insights. In examining both the percentage of carless households and the "Transit Score" awarded to each city by the realtor-affiliated website Walkability, we find that many of the cities that have legalized ridesharing have populations which have both large carless populations and relatively high-quality public transportation (see Table 1). While we may be inclined to view public transportation as a substitute to taxis and thus ridesharing, it is more likely that public transportation and taxicabs are not in direct competition. Public transportation is much cheaper than either taxis or ridesharing for individuals, who often need to use livery services in conjunction with public transportation. The relative silence of public transportation officials in the debate suggests they are not threatened by the fight between taxis and rideshare services.

The single largest economic interest we would expect to oppose peer-to-peer ridesharing is the traditional taxicab industry, namely the owners of cab companies and medallions. The industry is arguably caught in a classic example of a transitional gains trap, as can be demonstrated by examining cities that issue medallions to regulate the number of taxis in business. Firms operating in the industry when the medallion system was implemented were in a position to collect large rents due to restricted competition. However, over time, medallions, which represent the right to enter the market, have been priced to reflect the value to their owners, which means current owners of medallions (excluding those who may have inherited them) are likely receiving around normal profit on their investment.

Peer-to-peer ridesharing, if allowed, has the potential to drastically decrease the value of medallions, an impact that has already been seen in several markets where medallion prices have fallen by 17% or more (Barro 2014). Thus, owners of the medallions, despite not actually

seeing any economic rents, should still be expected to oppose peer-to-peer ridesharing. Interestingly, we should also expect medallion owners to oppose any regulation of peer-to-peer ridesharing that does not specifically limit the number of cars that can engage in ridesharing activity. Background checks and fare regulations may be a partial barrier to competition, but there would still be, in theory, more cars competing for the same number of passengers, which would lead to a devaluation of existing taxi medallions.

In jurisdictions where taxis are regulated, but there is no medallion system in place, taxi owners are still likely to oppose allowing more competition into the market, but will have far less motivation to fight it, given that they do not have the large investment in a medallion. Similarly, if for other reasons, peer-to-peer ridesharing is allowed, we should expect the taxi industry to immediately begin lobbying to be deregulated to whatever level of regulation rideshare providers have so as to not be at a competitive disadvantage.

A common measurement of monopoly/oligopoly strength in an industry is known as the market concentration ratio, or MCR, which measures market share of the top three firms. In this case, MCR data was available for 11 of the 13 cities (see Table 2). The MCR is a useful proxy for owner influence on regulation. The higher the MCR, the more of a given market is controlled by a just a few owners. Fewer owners increases the probability that they will be able to successfully coordinate efforts to oppose potential competition into their market (Olson 1965). Interestingly, two cities that have been relatively friendly for ridesharing, Denver and Austin, actually have relatively high MCR scores. Indeed, the three largest cab companies in Austin control 100% of the market. It is possible that the MCR is serving as a proxy for another variable of interest, existing competition. Consumers in markets with high market

Table 1: Transit Scores and Carless Households for Rideshare Cities

City	Transit Score	Carless Households
Chicago	65.3	27.9%
Austin	32.8	6.5%
Portland	49.6	15.3%
Boston	74.8	36.9%
Omaha	n/a	n/a
New York	81.2	56.5%
Seattle	57.3	16.6%
Atlanta	43.4	23.6%
Champaign	n/a	n/a
Tulsa	n/a	n/a
Denver	46.9	11.7%
Minneapolis	58.5	19.7%
South Bend	n/a	n/a

concentration ratios may receive less quality service due to the lack of competition, which makes them more inclined to push for legalizing alternatives.

The other clear economic interest is the taxicab driver. When the taxicab driver is also the owner of the cab and medallion, his ownership interests will dominate. But in many jurisdictions, drivers are generally not the owners of the cab, but rather are employees or pay for the temporary rights to operate the licensed cab. How should we expect drivers to respond to ridesharing? The current rules that allow taxicabs to operate as monopolies in the eyes of consumers also allow them to operate as a monopsony in the eyes of drivers. That is, in any city, most cabs are owned by a small handful of companies. This gives the taxi company a great deal of power in the market for labor. As such, taxi drivers experience relatively low salaries, with a mean hourly wage of about $12.12 per hour nationally (BLS). Ridesharing companies, by contrast, do not have the benefit of monopsony status and will have to compete for the best drivers, potentially forcing them to increase the driver's cut of each ride. In the absence of that, the companies compete through the quality of treatment of their drivers. Thus, independent drivers are not necessarily motivated to oppose ridesharing, and (assuming they own a vehicle) would possibly benefit by becoming a full-time rideshare driver.

Independent drivers, however, have little political power unless they are organized. In many cities, drivers have organized trade groups and unions. While individual drivers may not oppose ridesharing, it is likely that a driver's union will under most circumstances. While income from driving taxis is not a particularly lucrative business, current regulations do serve as a barrier to entry for taxi drivers, who often need special licenses. Most ridesharing companies, by contrast, only require a background check and a registered vehicle, vastly increase the pool of potential drivers, many of whom only drive part-time and could take away

Table 2: MCR in Rideshare Cities

City	MCR
Chicago	0.43
Austin	1.00
Portland	0.75
Boston	0.25
Omaha	0.74
New York	0.003
Seattle	0.88
Atlanta	0.39
Champaign	n/a
Tulsa	0.60
Denver	0.83
Minneapolis	0.35
South Bend	n/a

business from full-time taxi drivers during the times that were traditionally the most lucrative. While taxi drivers did not seem to benefit much from the current regulatory scheme, they find themselves in a similar transitional gains trap like their employers, which could put many drivers out of work. As such, we should expect the presence of a taxi driver's organization to increase opposition to ridesharing, thus decreasing the odds of disruptive innovation.

Interestingly, nine of the 13 cities examined for this study had identifiable unions or driver's organizations associated with the livery industry, including many cities where ridesharing has been allowed to occur. This would not be expected if the driver's organization was acting cohesively to capture the regulatory agency. Yet, their efficacy may be undermined if the drivers themselves have incentives not to cooperate with the official position of their organization. The little data Uber has shared, as analyzed and presented by Princeton economist Alan Krueger (2014), suggests this may be the case. Uber provided city-specific data for just three of the cities in this study, and in each the median hourly wage for Uber drivers exceeded the average hourly wage for taxi drivers. According to Krueger, about half (49 percent) of Uber drivers had at least some experience as for-pay drivers prior to joining Uber, which suggests that there are at least some current full-time taxicab drivers leaving traditional companies for Uber (Krueger & Hall 2014). This may explain, in part, why the presence of organized driver's groups seems to be a non-factor.

Outside of the economic interests, other special interests often engage in regulatory debates. Chief among these are consumer advocacy groups. In the traditional "Baptist and Bootlegger" theory, such groups assist the economic interests by bringing a moral voice to the rent-seeking regulation. Many of these groups are generally advocates of consumer safety and see regulation as necessary to this goal. They organize and exist out of a belief that markets will not or cannot regulate themselves. Thus, the presence of traditional consumer advocacy groups in the debate suggests an increased probability that ridesharing is at least regulated, decreasing the odds of disruptive innovation. Conversely, it is possible that an advocacy group could argue for the consumer benefits of allowing ridesharing (and the resulting disruption to the taxicab industry). The presence of such a group could be said to increase the likelihood that ridesharing is allowed to continue in a given jurisdiction. It is doubtful such groups would form for one issue, however, given the costs of collective action relative to the small potential gain for individual members (Olson 1965). Across the multiple markets studied, I was not able to identify obvious special interests taking a stand on the rideshare debate. Individual newspaper columnists and other public intellectuals frequently took stands, but it is difficult to measure the influence of such individuals outside a more intimate cultural and institutional context.

The final player worth considering is the regulatory agency, specifically the institutional nature of the agency. If Eckert's theory of commissions and bureaus is correct, then we should expect, ceteris paribus, that commissioners will be less inclined to make more work for themselves and will leave ridesharing relatively untouched, making deregulation of the taxi industry more likely. After all, regulating ridesharing brings only more work for a commissioner, who often works for a fixed stipend. Similarly, a commissioner may be more inclined to view the issue as a consumer, interested in maximizing his personal utility as a commuter. On the other hand, bureaus, seeking to increase their own budget and power, would be more inclined to bring ridesharing under the regulatory fold. Regardless of the nature of the agency, however, cities that issue medallions may be less likely to allow ridesharing to occur, as such cities benefit from the high value of medallions, which they have the right to issue and auction.

The nature of the regulatory agency overseeing the rideshare companies seems to have little impact on its legal status. Ten of the 13 cities utilized some variation of a bureau while the remaining three had commissions. Yet the one city where ridesharing is effectively illegal, Portland, has a bureau system like the majority of the cities. As is the case of the non-economic special interests, it is difficult to conclude too much from this without a deeper understanding of how the bureaus and commissions factor into the broader political institutions that operate in each city.

CONCLUSION

The broader data provides little evidence to refute the assumption that the existing economic interests should get their way. Yet, the actual story is quite different. Examples of cities legalizing ridesharing far outnumber the handful that have chosen to ban it. Austin, for example, legalized (with regulations) ridesharing by a 6-1 vote, even though local taxicab owners had contributed $54,000 to local city council members, while the rideshare companies had contributed nothing. Chicago, New York and Boston have also adopted tentative regulatory schema, albeit with a slightly more active presence from the representatives of the major ridesharing companies. Yet, many of the regulations being imposed in the process of legalization keep ridesharing from being totally disruptive and fully benefiting the consumer. How do we account for this? Is the data collected simply insufficient? Is the theory fundamentally flawed?

Arguably, what the current situation suggests is that Peltzman was right when he observed that no single interest tends to capture a regulatory body. It is possible for ridesharing to be legalized on a gradient of the regulatory scale. The economic interests have a clear preference of not allowing ridesharing in any form and will lobby accordingly. Consumers have only a marginal interest in the outcome, but they still have an interest. Both Uber and Lyft tactically offer free rides in new markets to encourage consumers to try them. Banning ridesharing outright after consumers have had the chance to benefit from the innovation may be enough to trigger a move toward organization, but most consumers will be less concerned if they are allowed to use a regulated form of the service, as long as they feel like their position is still improved. Thus, in most cities we can expect the regulatory agencies to attempt a sort of balancing act which legalizes ridesharing at some level of regulation which appeases the entrenched economic interests.

Unfortunately, this theory has little useful predictive value other than we may assume that ridesharing will be legalized and regulated in most jurisdictions. We may predict that ridesharing may be banned only in jurisdictions with particularly invested economic interests (Las Vegas may serve as the perfect example of this). Ultimately, it appears that ridesharing does in fact have the potential to disrupt the existing political alliances enough to allow a new entrant into the market, as Yandle & Smith and Thomas propose. Whether this will be enough to fully force deregulation of the taxicab industry still remains highly doubtful. It appears more likely that it is at best capable of triggering a new round of regulations.

REFERENCES

Barro, Josh. “Under Pressure from Uber, Taxi Medallion Prices are Plummeting.” The New York Times. Nov. 27, 2014. Accessed Dec. 8, 2014.

Bureau of Labor Statistics. “Occupational Employment and Wages: Taxi Drivers & Chauffeurs.” http://www.bls.gov/oes/current/oes533041.htm Accessed 13 February 2015.

Crew, Michael & Charles Rowley. “Deregulation and Diversification of Public Utilities.” Topics in Regulatory Economics and Policy 3. New York: Springer, 1989.

Eckert, Ross D. “On the Incentives of Regulators: The Case of Taxicabs.” Public Choice 14 (1973): 83-99.

Folvardy, Fred & Daniel Klein. “The Half-Life of Policy Rationales: How New Technology Affects Old Policy Issues.” Knowledge, Technology, & Policy 15 (2002): 82-92.

“How It Works.” https://www.lyft.com/how, accessed Nov. 10, 2014.

Krueger, Alan & Johnathan Hall. “An Analysis of the Labor Market for Uber’s Driver-Partners in the United States.” https://s3.amazonaws.com/uber-static/comms/PDF/Uber_Driver-Partners_Hall_Kreuger_2015.pdf.

Olson, Mancur. The Logic of Collective Action: Public Goods and the Theory of Groups. Cambridge, MA: Harvard University Press, 1965.

Peltzman, Sam. “The Economic Theory of Regulation after a Decade of Deregulation.” Brookings Paper on Economic Activities (1989): 1-59.

Smith, Adam & Bruce Yandle. Bootleggers & Baptists: How Economic Forces and Moral Persuasion Interact to Shape Regulatory Politics. Washington, D.C.: Cato, 2014.
Staley, Sam. “Market Concentration Ratios in the Taxicab Industry.” DeVoe Moore Center & Florida State University.

Thomas, Diana. “Deregulation despite transitional gains: The brewers guild of Cologne 1461.” Public Choice 140 (2009): 329-340.

Tollison, Robert & Richard Wagner. “Romance, Realism, and Economic Reform.” Kyklos 44 (1991): 57-64.

Tullock, Gordon. “The Transitional Gains Trap.” The Bell Journal of Economics 6:2 (1975): 671-678.

Tullock, Gordon. “The Welfare Costs of Tariffs, Monopolies, and Theft.” Western Economic Journal 5:3 (1967): 228-229.

Yandle, Bruce. “Intertwined Interests, Rent Seeking, and Regulation.” Social Science Quarterly 65 (1984): 1002-1012.