Economic Analysis of Taxicab Regulation

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Because taxi regulation is fairly complicated and there are a lot of regulations, it is quite important at the outset to think carefully about the different kinds of regulations that exist.

First of all, it is important to keep in mind that some of our comments may apply to only one of the market segments: radio dispatch, cruising, taxi-stand, airport, and, perhaps, contract service. It is important to keep those five taxicab market segments separate in discussing regulations because there are some regulations that might be justified in one of those market segments but not in others.

It is also important to keep in mind the rather large variety of regulations that exist, because some of our critical comments will apply to one type of regulation but not to others. In particular, it is important to separate entry regulations or restrictions, which include franchise restrictions that limit the number of firms as well as medallion licensing systems that limit the number of taxicabs. We have concluded that there is no persuasive economic justification for those sorts of regulations.

A second category of regulation is fare regulation, and here it is important to disaggregate fare regulation into different types. There are many fixed-fare regulations in which the government specifies the fare and firms cannot discount below the floor. We have concluded that there are no persuasive economic justifications for this limitation on downward fare competition.

There are, however, other types of fare regulation, for example, ceilings and posting and filing requirements. We have concluded that there are potential justifications for some of those types of regulation. The meaning of "potential" will be spelled out a little later. I am not really endorsing these regulations, but there are some arguments that suggest that there might be some benefit to them.

Third, there are regulations governing service. Some restrict certain types of service, such as shared rides, dial-a-ride, jitneys, and so on. On the whole we have concluded that there are no justifications for most of those types of restrictions.

There are, however, service requirements—for example, that all calls must be answered, that service must be provided 24 hours a day, and that there be a certain number of taxicabs per firm. With some hesitation we have suggested that there are some potential justifications for those regulations. They are of a third-best nature, if you are into the idea of second best and third best. There are a lot of better ways to handle problems in taxi markets, but service requirements might be a second or third best way to handle some of them if the better alternatives are unavailable.

The final area of regulation is quality regulation, for example, vehicle safety requirements and liability insurance requirements, and again we have concluded that there are potential justifications for those regulations.

So if you look at what we have really focused on here, our criticism is essentially aimed at restricted entry and restrictions that prevent taxi firms from lowering fares. We are particularly concerned about regulations that would prevent an entrant, particularly in the radio dispatch market, from getting, say, 10 cabs, entering with a new small fleet, and offering service at a fare below that currently mandated. The other types of regulations, on the other hand, may have some merit. We cannot reject some arguments for regulation out of hand. Although we are not endorsing all regulations, we are keeping quite an open mind on some of them. In other words, in the real world they would require further study. It would really be best to do a cost-benefit study of a particular quality regulation to see if it is justified, but at least there are potential gains from these regulations.

Why are we critical of the entry restrictions and the limits on downward fare competition? The first thing to think about, apart from the direct restriction of having fewer taxicabs, is that many of these restrictions open the way for firms to have monopoly power. Limits on the number of firms or limits on the number of licenses make it possible for one or a small number of firms to get control of most of the licenses so that the result is a concentrated industry. This is important, because if you look at taxi markets across the country, you will find that in a lot of cities, even though the number of licenses is restricted, not all the licenses are used, and that is presumably in many cases a reflection of the exercise of monopoly power. In other words, if you have all the licenses, you may do even better by not using all of them. So limiting the number of licenses may create a sort of multiplier effect, which results in monopoly power.

Now, beyond that, what are the basic problems with these regulations? One is that they result in a waste or an inefficient allocation of resources. The problems that we think are common as a result of limits on entry and on downward fare competition, particularly in the radio dispatch market, are that fares will be higher or waiting times longer, or both. As a result ridership of taxis will be lower, so fewer urban trips will be served by this mode. There are inefficiencies of that sort, the same type of inefficiency with, say, the exercise of monopoly power when output is lower and prices are higher than they should be.

A second type of inefficiency that results from these regulations is that occupancy rates on average will be lower and the cost per trip higher. This happens in a variety of ways. Restricting ridesharing is one example: a lower occupancy rate is the result. Requirements to provide various sorts of service result in a lower utilization rate for those services. There are anti-reciprocity restrictions that result in deadheading.

A third general area of inefficiency or waste of resources is the shortages that exist in many specific segments of the taxi

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market, for example, refusals to make short-haul trips, which often reflect the peculiarities of the fare structures that make certain types of trips unprofitable to offer.

Thus, there is a range of inefficiencies. In addition to the waste of resources, taxicab regulations may be criticized on grounds of inequity. In economics there is often a supposed conflict between efficiency and fairness. In this case, there is not, because in addition to the waste of resources, these regulations impose a disproportionate burden on the low-income population in two ways. First, the low-income population spends a higher share of their income, and often simply more dollars, on taxis than does the high-income population. As a result, of course, they are disproportionately burdened by higher fares and longer waiting times. Second, the employment opportunities that are lost as a result of the entry restrictions are typically for lower-skilled jobs. Thus entry restrictions and limits on downward fare competition may be criticized on the bases of both inefficiency and inequity of income distribution.

The body of our study leads to the foregoing conclusions in two different ways. First, we examined and evaluated a variety of theoretical arguments for taxicab regulation. To justify government intervention in a market, typically one determines whether there is some imperfection in that market that would lead to an inefficient allocation of resources in the absence of government intervention. We went through all the literature and tried to think of the various arguments for why the market might fail if the government didn't intervene with one or another type of taxi regulation. I will cover five somewhat plausible arguments that provide a potential justification for some of the regulations that I have mentioned. The interesting point is that these arguments don't support restrictions on entry or on downward fare competition. And in fact, on the basis of specific arguments that have been offered to justify those restrictions, they have been rejected.

Let me just mention some of the types of arguments that led to justification for one or another type of fare restriction.

First, there are two or three different reasons that might be hypothesized for inefficiently high fares in the absence of government regulation. One of these is that there are some impediments to fare competition in the market because shopping for the lowest fare can be quite costly for riders in some situations. This is where it starts to become important to analyze separately the different market segments mentioned earlier. In radio dispatch service there is no real problem. It is not hard to shop around on the phone, for example, and as long as a certain number of people are shopping around, there will be an incentive for firms to offer lower fares, which is really all it takes.

On the other hand, in the cruising market, as you might imagine, there might be a problem. When the cab drives up, if the fare is 15 cents higher than expected, is the customer going to reject it and wait for another cab? Maybe not. In other words, in the cruising market shopping around is costly for the customer because he actually has to wait for another cab. He doesn't know when it is going to come or whether that cab will have a lower fare. Therefore cruising cab companies may not have an incentive to lower their fares. On the other hand, this is only a potential justification, because cruising cabs are still competing with the taxi-stand and radio dispatch services. It still is a possibility for fleets to enter the cruising market and make it well known that there are a lot of cabs offering a lower fare if the customer is willing to wait for one.

Let's take another example, say, the taxi-stand market, which is the typical type of airport service. Here again there are problems of fare competition. Typically, airport service is on a first-come, first-served basis for which the cabs are lined up. However, once they have lined up, it is pretty hard for a customer to do comparative shopping. When a cab drives up, it is difficult to say, "No, I want to check around." Another difficulty is that many airport customers are out-of-town visitors who may not have the information to bargain effectively. The problems at airports could be solved without fare regulation, by redesigning the queues, posting fares, and so on. However, it is possible that part of the solution might be fare ceilings. We do not endorse those ceilings but we suggest them as a possibility.

The argument for fare ceilings applies in the radio dispatch market also. We discuss various economies of scale in that market in this paper. In a small city under a system of open entry, it might be possible to have only two or three optimally sized radio dispatch companies. They might be able to exercise market power. The gains from fare ceilings in the radio dispatch market in smaller cities do not justify fare ceilings in other markets, however. It is important to think carefully about the size of the segment, the size of the city, and so forth.

A third problem arises from bargaining over fares. If fares are not regulated and meters are not used, the customer has to bargain every time he hails a cab. A lot of time is wasted negotiating over the fare. If it is raining, it is costly to wait for the next cab. In such situations there may be price discrimination. Basically, the cab company will try to extract all the consumer surplus. It may be debated whether this is an argument for fare posting, fare filing, or fare ceilings. There are various potential solutions to such a problem.

A fourth type of problem is information. It is difficult for a rider to know everything relevant to the quality of the cab, its insurance coverage, and so forth. This may justify fare regulation.

A fifth problem (one that is rather more interesting) is a market failure not inherent in the market but introduced by fare regulation itself. Suppose that the government imposes a uniform fare or some sort of simple fare structure. Even if many trips are overpriced, it is very likely that certain trips are underpriced. If fares are charged by the mile, trips at certain times of day to certain sectors of the city where demand is low will be underpriced and it will not be profitable to offer service there. Service refusal problems and short-haul problems will occur. Once these problems have been caused by fare regulation, it may be a second- or a third-best argument for the government to require that service be offered, that all calls be answered, and that short hauls not be turned down.

At that point there is a further problem. If there are many independent cabs, service requirements will be difficult to enforce. It is very costly for an independent driver with one cab to operate 24 hours a day. If the numerous independents cannot be controlled, they will provide only profitable service. If they are forced to serve all areas at all times, the fleets will be serving no markets where they are earning an excess profit and yet will be required to serve markets where they are operating at a loss. Ultimately, it will not pay to be in business as a fleet.

To retain service for unprofitable trips, a cross-subsidy is required to make sure that there are some segments that are profitable to compensate those firms that serve the unprofitable segments. This cross-subsidy argument has been used as a justification for requiring 15-cab minimum fleets.

Requiring 15-cab minimum fleets is likely to be a third-best solution. A first-best solution would be to change the fare regulations, and a second-best policy would be to subsidize the losing segments.

Having suggested that there is some potential argument for regulation of one sort or another, I just want to point out that we have rejected a number of the arguments that are used to justify entry restrictions, for example, those based on congestion and pollution. Another argument is best typified by the airport situation. Imagine that the fare is set too high, for whatever reason, and that there is a line of cabs at the airport. It is not going to improve service to have another 100 cabs at the end of the line. So once fares are high enough to cause lineups, it would make sense to argue that the number of cabs should be restricted, thereby cutting down on the waste of resources caused by excess cabs waiting in line and trying to earn those high profits.

There is, then, a second-best argument for entry restriction based on efficiency if fares are too high. But the situation just described is not really an argument for entry restriction. Rather, it would make more sense to reduce fares by using a fare ceiling, which would eliminate the profit of being in the lineup of cabs at the airport.

So far we have been examining taxi markets from a theoretical point of view. We also looked at the empirical evidence, essentially by using published reports in which consultants have reviewed the experience of regulatory revision in a dozen or so cities in the last 5 years.

On the basis of those reports, we conclude that in radio dispatch markets, on the whole, the experience with deregulation or regulatory revision has been good. Some of the problems are anecdotal—perhaps something that happened 10 years ago in Indianapolis—and hearing about them in interviews later does not clarify the situation. Other problems do not appear to be widespread and significant, but rather characteristic of one locality or one taxi market. In some cases, the problem that resulted from deregulation was not caused by the easing of entry restrictions, but by lack of enforcement or regulation of drivers or vehicle condition.

In general we found that the results were fairly positive. I have handed out some tables to make a couple of these points in a systematic way. First, new entry in response to open entry appears to occur at least half the time. In about half the cities that have deregulation or open entry, there are about eight or nine cases in which new radio dispatch firms entered with 10 or 20 cabs. Second, in virtually all cases that we considered, there was also a deconcentration of the industry; in other words, the largest firms ended up with a smaller share.

The number of both independent and fleet taxis has increased significantly in most of the cities that deregulated. Some of the entry restrictions probably were not binding, so the impact of these restrictions varies by city. Thus we were not surprised to see different effects, but the median effect was about a 25 percent increase in the number of cabs over the period covered by the literature reviewed.

We also found some evidence that after deregulation, there was a decrease in fares, waiting times, and certainly some resources spent by city councils in regulation.

On the negative side, there have been some problems, but most have not been related to the radio dispatch segment but to the airport and taxi-stand segments, which have caused some difficulties in a number of cities. These difficulties appear to be related to high fares for airport trips, which in turn provide an incentive for long lines of cabs at the airport. These, in turn, lead to refusal to make short hauls, disputes over place in the line, administrative problems in the hiring of extra starters, and so forth.

But are the regulations we are talking about the way to respond? Should entry be restricted? Should fare competition be reduced in the downward direction? Our answer is no. What should be done is to try to improve fare competition, perhaps through redesigning the queues, posting fares, and so forth. Anything beyond that would probably consist of either fare ceilings or user charges for picking up passengers in the line (a sort of congestion toll for being in the line).

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COMMENTS

MR. KIRBY:

Any questions for Mark Frankena?

MR. SAMUELS:

My name is Robert Samuels and I have had some experience in this business. I suggest to you that the public is in no position to shop at the variety of rates of fare that exists. For instance, is 10 cents per 1/10 mi greater or less than 20 cents for 1/5 mi? You are standing there, you see, and the cabs are going by. You are shopping.

MR. FRANKENA:

Well, it is the same, but that is not...

MR. SAMUELS:

Of course it is not the same, because of the way the meters work. Now if you have one cab charging $1 for the first 1/5 mi and 10 cents for 1/10 mi and one charging 75 cents for the first 1/10 mi and 10 cents for 1/8 mi, which would you choose? You know, the problem is that in places like Seattle, if I recall correctly, there were 400 different fares filed with the commission, and nobody could shop for cabs in that environment. I think that

your comment about Indianapolis is not correct. UMTA had a conference in Kansas City in May 1981, at which the commissioner from Indianapolis testified that when they deregulated the entry provisions, he ended up with a different color scheme on every one of the 300 or 400 taxicabs in Indianapolis. When he got a service complaint, he couldn't identify the owner of the cab because the customer couldn't tell the polka dots from the stripes.

MR. FRANKENA:

Let me just make two points. On the first question about comparing fares, I think again that it is important to go back to the first point I made, which is that if you look at the different segments in this market, about 75 percent of the trips are typically by radio dispatch. I don't think it is particularly difficult for anybody to make those fare comparisons, and if you think of the way competition over price works, you don't need everybody comparing every time on radio dispatch. The important thing is that if some people make comparisons some of the time, there will be an incentive to reduce fares. Once the fares are reduced, it isn't important for each person to check each time. The point is, the fares will be lower than they otherwise would have been. So, as far as the radio dispatch market in particular goes, and that is the main market we are talking about, I don't see the point.

MR. SAMUELS:

Radio dispatch is not the major way in the big cities. Certainly it is not in Chicago, New York, Los Angeles.

MR. FRANKENA:

As to Indianapolis, I don't want to dispute one way or another what happened there, but I don't see that the alleged problems really have anything to do with the restrictions that I am talking about, which are entry restrictions and downward restrictions on fares. Some of the various activities being done in cabs would be the concern of general law enforcement or have to do with the characteristics of those people who drive taxis. They have very little to do with the nature of fare competition, and nothing to do with the number of taxis.

PARTICIPANT:

Would you say something about your attitude toward regulations requiring maintenance and testing stations?

MR. FRANKENA:

As I said, I can think of perfectly good reasons why those might be sensible regulations. We did not actually look at specific regulations in specific cities and figure out whether they made sense the way they were done. What I have said is that I hesitate to endorse these types of regulation. There may, in fact, be some maintenance regulations that are inefficient. On the other hand, the arguments for some sort of consumer protection regulations are not absurd. But you can't just base government intervention on a potential market failure. You actually want to look in detail at what the benefits and the costs are of intervention in the particular case. I am not rejecting the hypothesis that it is a sensible regulation, but, on the other hand, I am not accepting the existing quality regulations as efficient.

PARTICIPANT:

I wonder if you could explain what problem led you to exploration of taxicab regulations in the first place? Is it part of the general climate of deregulation that is taking place in a number of industries or were there particular complaints within the taxi industry or about the taxi industry that brought it to your attention?

MR. FRANKENA:

I don't really think I can give you an accurate explanation. I was essentially asked to do it when it was already under way. So it is hard for me to suggest what happened bureaucratically.

MR. PAUTLER:

I really don't have very much to add to the comments Mark has made about our paper. However, I think I can answer the last gentleman's question about why the FTC might have been interested in this area. There has been a lot of discussion in the economics literature over the years about taxi markets and how they do or don't operate. In particular, some interesting work was done about the city of Chicago and the cabs there, and I think that work was probably the intellectual impetus for the FTC's interest in taxicab regulation in general. I am sure there were other objectives somewhere in the bureaucracy, but I am not aware of them.