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Competition Policy Review Final Report - Comments on Section 10.2 on Taxis and Ride-Sharing

CabFare (National Billing Group) is supportive of much of the thrust of the panel's views expressed at page 135 of its final report. The important reform issues identified for taxis involve:

1. Eliminating restrictions on the supply of taxis that limit choice;
2. Encouraging technological change that can benefit consumers;
3. Reducing in the current level of red tape that applies to (taxi) industry.

The problems confronting this industry are not unique to Australia but are found worldwide. This indicates is that the industry structure, regulations, pricing and technology applied to the industry reflect systemic deficiencies not able to be addressed by piecemeal solutions.

At the outset we would note that two key elements of the Panel suggestions for reform are wrong.

1. Firstly the suggestion that "booking apps" will resolve the fulfillment issues at peak demand is unfounded. The largest longitudinal study of the impact of booking apps, undertaken by the NY Taxi Commission's eHail project, does not support the Panel's contentions in this matter. That is booking apps are not the panacea for the industry's problems.
2. Secondly the assertion that increasing the supply of taxis or deregulating the supply side will result in lower consumer pricing is wrong.

Critically the Panel failed to address the key issues in pricing models and the opportunity to apply dynamic pricing models to better match supply and demand on a time of day and location basis.

We address these matters in this submission.

The Taxi Regulators dilemma:

1. Regulators have prescribed the structure, rules, pricing and standards for the Taxi industry for over 100 years.
2. In many instances Regulator and industry are too close. Regulatory capture has occurred.

3. Regulators created "property rights" (licenses), the State profited from them. The challenge from "ride sharing" offers such as UberX is that it effectively undermines the value. Why pay for it when UberX gives you one for free.
4. Regulators know today's services are not delivering innovation and are frustrated with industry inertia. Paradoxically their action/inaction often underpins the failure to innovate.
5. There is a significant disconnect between service availability and pricing. There are no effective real time price signals operating for operators or passengers, the result of 100-year-old metering technology and rigid price caps.
6. Regulators are NOT fiercely independent in their price setting and are subject to political oversight. Taxis are NOT subsidised by the State but their revenues are regulated and accurate pricing signals to passengers are distorted with political imperatives for "cheaper fares". This is an oxymoron when demanding service innovation in an industry with high fixed costs and drivers on low pay rates.
7. For the first time Regulators face a well-healed adversary in Uber skilled in mobilizing social media, who hasn't come and asked for permission to operate. The Chair of the Victorian Taxi Services Commission comment that "Uber entered Victoria without discussing it with him" is instructive. Uber doesn't need him and Uber knows he doesn't have the resources to stem the tide.

A way out of the Regulators Dilemma:

New models of regulation are required. The following is a start:

1. Regulators need to rethink the constraints they impose on the industry and the impact these have on innovation and service delivery. Get out of telling people how to run their business is the message for reform. A light hand is what is needed today for the industry to survive.
2. Uber has demonstrated via "surge pricing" that Passengers are prepared to pay for an "at demand" service. Scrapping price caps, 100-year-old metering technology, replacing them with real time demand based time of day pricing with an independent market operator requires urgent examination.
3. Parliament needs to ensure Regulators are independent from Ministerial direction and Ministers have to accept that Taxis are NOT part of the public transport system.

Using Dynamic Pricing to drive Reform

Uber's use of pricing algorithms to respond to peak demand in taxis and limousines provides a useful model for application across the entire industry.

CabFare believes that now is the time for the taxi industry and its regulators to:

1. *Examine the use of pricing tools to better manage periods of strong passenger demand as well as rebalance demand when there is over supply of vehicles.*

2. *Question the use by regulators of inflexible maximum regulated fares (price caps) that exacerbate poor service.*
3. *Examine the policy disconnection that is emerging in some jurisdictions that apply to regulated price caps for fares but pursue deregulating entry to the industry.*

Without such change the industry will continue to be marginalized by vested interests opposing change. The industry will lose the public policy debate to the likes of Uber who claim to be innovative and disruptive but in reality provide just the same old service with a fresh coat of paint and a lot of hype.

Dynamic Surge (Peak) Pricing?

Despite the pejorative use of the term that Uber has created, it is simply using the time of day and the demand and supply curves for its services in an algorithm to set pricing for its services. This it rightly claims will attract more operators and more importantly balance demand. It can thus meet its fulfillment obligations by using pricing as a rationing mechanism for scarce resources. For Uber then it can maintain the pretense it always meets consumer demand.

Surge pricing then is not a complex concept. It is economics 101 but the algorithms that underpin such pricing can be complex. The fundamentals of such market algorithms involve:

The fundamentals involve

1. Setting a "clearing price" at which the last increment of supply balances demand.
2. At that price all supply in the market is priced until demand changes at which a new clearing price is determined.
3. Clearing prices are pegged for specific periods.
4. Transparency as to how price is set and the supply and demand position is available to participants.
5. An independent operator manages the market with a set of rules to prevent market

Pricing in this manner is found in many markets (e.g. utilities, ports, eBay). Such pricing should be encouraged to better manage resources (as Uber demonstrated), and stimulate operator service innovation.

The history of price setting and Taximeters

This history is important as Taxi Meters and Regulated fares has framed the perspective of the public, regulators and politicians and impedes reform including integrating the good aspects of surge pricing.

The Taxi Meter as we know it today has remained unchanged, save for some minor technology upgrades, since Wilhelm Bruhn invented it in 1891. The taximeter records time spent on a journey and distance traveled in order to calculate fares. The Regulator's fare setting tools reflect a mix of rudimentary metering technologies, and microeconomics in use for over 100 years.

By regulating prices Government's sought to provide consumers with certainty but in so doing removed key market signals and created a political millstone for themselves by intervening in the market. They assumed the worst aspects of a central planned economy with technocrats determining what can be produced, when it can be produced and at what price it can be sold. Whilst the State has a responsibility to protect the individual from themselves and the community in taxis it has stepped well over that line particularly when it comes to use of price caps and fare setting.

The combined impact of regulated pricing and 100 year old metering technology:

In the taxi industry regulated pricing and legacy-metering technology has:

1. Resulted in demand signals being muted or hidden from consumers. As a result consumers assume that they can have an "at demand service" at the lowest price 24/7.
2. Maintained a myth that the Taxi is a "common carriage" service and part of the public transport network. Unlike other elements the State makes no direct contribution to its provision other than delivering some "externality" benefits. (e.g. priority lanes on arterial roads).
3. Complicated inflexible peak tariffs with no connection to real time demand of the system

Almost all complaints about taxis can be traced back to legacy technology and regulatory practices. Drivers fare refusal is because the regulated fares won't let them charge more for short trips or outer suburban trips where the likelihood of a "backhaul" trip is low. Poorly maintained taxis can be sheeted home to regulated pricing, and the inability to charge for better quality. Eratic driving behaviour or drivers who don't know where they are going are also a symptom of regulated pricing? With high fixed costs, and no way to increase their revenues except by finding another fare they try to get from place to place as fast as possible?

Regulators must tackle Fares and metering technologies as a single issue:

1. Instead of maintaining the status quo in terms of determining maximum fares for taxis and maintaining existing metering technologies there is a clear need to rethink the pricing tools to manage fulfillment.
2. It is clear that:
    i. The 100-year-old technology underpinning current taximeters is severely outdated. Regulators should not be encouraging the development of incremental technology developments in metering, as is the subject of reviews in various States today. Rather, there needs to be a significant disruption of this tired old technology.
    ii. There is no need for an in taxi-based meter calculating fares. Rather a cloud based metering algorithm can be used pushing real time information both to a taxi display and to the passenger's smart phone.

iii. Real time pricing incorporating time of day and locational pricing signals should be implemented so as to better match supply and demand with prices set for specific forward intervals.

3. To deliver the necessary consumer protection and overcome the flaws in the Uber's approach, consideration needs to be given to an independent market operator posting prices in real time based on demand based on real-time Network dispatch data as well enabling better matching of supply and demand. Cloud based metering algorithms will enable network performance monitoring and market supervision. Micro pricing will emerge rather than one size fits all solutions. It will also enable ancillary or services to be offered and priced. (e.g. Budget no frills services with longer wait times and a lower price).

If the "annocdotal" evidence from Uber is accurate and "surge" pricing is triggered for 10% of its trips then scrapping regulated maximum fares and outdated in taxi metering in the manner is a low risk outcome for Regulators and Politicians.

Dynamic pricing is the only mechanism able to deliver improved services and better returns to operators and drivers at these peak periods. Conversely, at periods of low demand with a transparent clearing price for fares would encourage more riders, more revenues for drivers at those times, and better fleet utilization.

Dynamic real time and locational pricing then is an effective solution to fulfillment as well as many of the ills confronting the industry. This model of pricing is critical to delivering:

1. Improved passenger service
2. Better returns to operators/drivers.
3. Better fleet utilisation.
4. Innovative new services (e.g. Budget services with longer wait times)
5. Micro priced ancillary services in Taxis.

Will taxi apps deal with the problem of availability in peak times as the Panel has suggested?

The short answer is NO, they don't and NO they can't. They face the same fulfillment problem that taxi networks do.

One of the consistent complaints about booking taxis is that "I can't get one when I need it". If one probes further it becomes clear that the person complaining is talking about trying to book a Taxi in a peak period. The complaints are typically:

1. The Taxi Company doesn't answer my call;
2. The Taxi doesn't arrive and I don't know where it is even when I book it the day before
3. There are no Taxis available or the queue at the rank is incredibly long.

This reflects the position in the market of a taxi, namely it is an "at demand" flexible service operating 24/7, which offers bespoke transport point to point.

The taxi dispatch systems in Australia offer a generic service with little capacity for fleet placement. That is, they are merely a matching service linking a passenger and a driver with little if any control over either. The taxi network has little ability to influence the supply of and demand for services or positioning the fleet, unlike other fleet operators (e.g. airlines, courier, trucking companies) who can manage their assets and position the fleet ahead of a peak period. Further, those transport services can withdraw some of the fleet from service at low demand periods because they control fleet rostering. A taxi dispatch system has no such flexibility and limited control on availability.

What are the Facts?

1. Taxis like many markets are subject to significant swings in demand. Like electricity on a hot day when everyone turns on their air-conditioning, taxi customers believe that the system should be there and available at all times.
2. A taxi fleet network manager is unable to position the fleet or schedule its availability. They rely on the operator/driver to make the scheduling and positioning decisions. In off-peak periods this leads to oversupply and in peak periods can result in significant under supply. Both are inefficient with the latter exacerbating supply shortages leading to passenger frustration. This arrangement is akin to an airline leaving the scheduling of airline services to its pilots with each pilot making their own decision.
3. For most days and shifts of the week there is a surplus of supply, which leads to strong competition for work and drivers. Again this is a function of relying on the individual driver/operator to schedule and position the fleet. This is again a highly inefficient approach to operations.

So into this mix we have taxi-booking apps

Their proposition for the passenger is:

1. Visibility of the vehicle, i.e. they provide you with the location of the vehicle and its approach
2. Visibility of the fleet availability i.e. if any cars are in your vicinity
3. Providing passengers with a sense of becoming part of an exclusive community. They may be provided with a "private" vehicle, even if it is an illegal "ride share". Some users may see this "VIP experience" as something worth sharing with friends both online and offline.
4. A perception of being in control of the booking process - instant gratification, you are not in a queue and take a number
5. The details of the person supposedly driving the vehicle

BUT Apps are relying on the same pool of drivers and taxis to meet its bookings, excluding unregulated ride sharing. The app dispatch is a slightly more sophisticated tool of taxi dispatch than the taxi network's dispatch system; BUT it is simply replicating what goes on in a regular dispatch except that it delivers more accurate and timely information on availability or the lack of it. The black hole of information created in traditional taxi dispatch around "the first available car" is made transparent.

Some apps try to improve their position by offering drivers an availability surcharge or set pricing above the metered fare by encouraging pre agreed tipping. Again this does not address the key issue meeting taxi demand at peak times. Taxi apps simply shuffle the deck chairs.

So, what can be done?

The traditional solutions are to either issue more licenses and to increase taxi fares to incentivise drivers to be available. Both are inefficient and inflexible tools especially when for most of the time there are more than enough taxis. In electricity we overbuild networks to supply the 10 hottest days of the year and then pay for it every day in higher electricity costs. Building the grid for predicted peak demand is an inflexible response to peak demand and has proven extremely expensive for consumers and the wider community.

Interestingly in other transport industries leasing of additional capacity is used to address peaks therefore a proxy for this is needed in taxis.

In taxis there are a number of techniques worth exploring:

1. Drivers/Operators and Taxi Networks need to be educated that fleet scheduling and placement are critical and should not be left to individual drivers to manage. Having almost the entire fleet available during low demand periods reduces average revenues per taxi with much of the fleet operating at uneconomic levels. A rational outcome would have some operators/drivers withdraw their services at these times and offer services at peak periods to get higher average revenues. The problem is that information is unavailable to drivers to make such rational decisions and there is no

incentive to the driver to be unavailable when there is excess supply of taxis. Smoothing the supply of taxis through incentives 'not to be available' during over supply times may be a first step as well as providing better information on 'projected demand' might encourage better allocation of the taxi fleet.

2. Networks need to be empowered to manage scheduling. This may involve developing bidding systems for shifts and regulators rewarding networks for availability.
3. Consideration needs to be given by regulators to encourage limousine fleets to be flexible and available in peak periods especially in evenings and over the weekend. In Melbourne this would add up to 500 additional vehicles to the peak fleet. It may require some rethinking of our regulation of limousines to allow defined rank hire.
4. Similarly limousine operators need to take the initiative and make themselves available. Unless they do they encourage the growth of the illegal ride sharing whilst also missing out on a significant source of additional work.
5. Networks have a comprehensive database of all trips including both pick up and destination. Mining this database to position the fleet ahead of demand will improve availability and fulfillment.

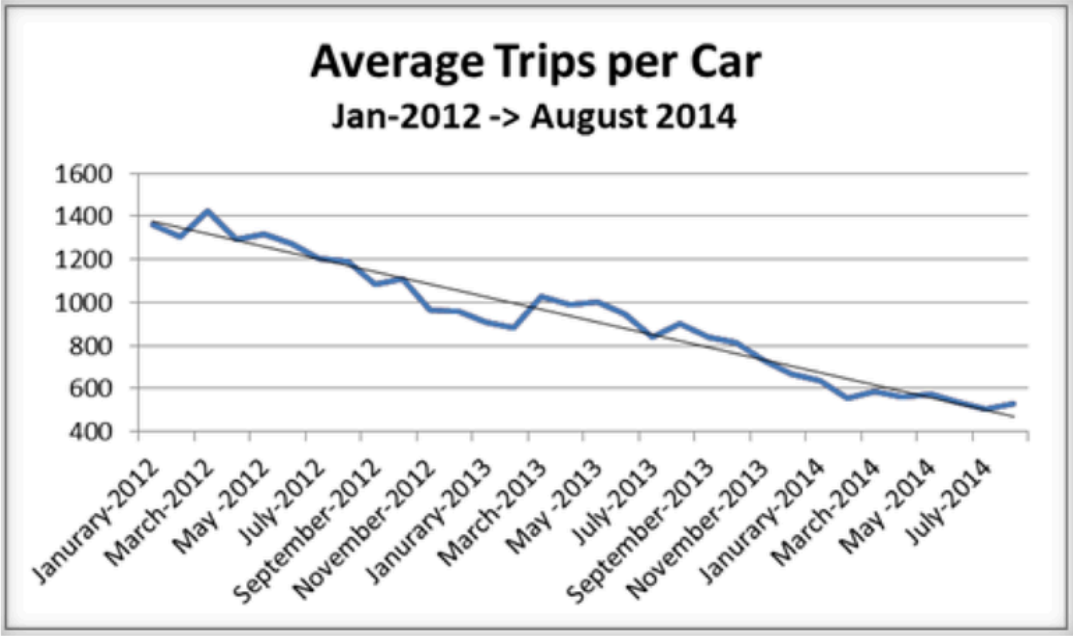
Developing fulfillment strategies for periods of peak demand is the key issue for the industry to address. A booking app in itself does nothing to address fulfillment at periods of peak demand.

Will Booking Apps Survive Long Term?

Some Regulators, financial journalists, and analysts believe that Taxi Booking Apps are disruptive technologies, have empowered passengers and drivers and have dramatically changed the patterns of supply at peak periods subverting the taxi networks. They say that Taxi Booking Apps are the way of the future. But is this necessarily so and will such apps survive in the long term?

Firstly a few facts to understand the landscape and how things may play out:

1. There are those Apps that facilitate getting a cab to arrive (e.g. GoCatch, Ingogo, 13CABS). These are just offering normal dispatch services but with some additional information on the location of your taxi.
2. Another group add additional value to enhance the passenger/driver experience (e.g. Uber, Hailo, Lyft). Hailo allows both a driver and passenger of a London Taxi which is constrained by law to rank and hail to become an at demand service. Uber and Lyft use a combination of surge pricing and illegal ride sharing to ensure peak periods service fulfillment.
3. The cost of developing a Taxi Booking App is now about $20k as there is no inherent intellectual property in an app. There are around 700 booking apps on the Apple Store so it is now just a "me too" product.
4. Taxi Booking Apps have broadened the form of dispatch. Industry statistics indicate that around 30% to 35% of Taxi rides are booked on an App. The New York Tax Commission EHail trial provides the most comprehensive data set on the use of Taxi booking Apps. The key findings from this longitudinal study (from June 2013 to Dec 2014) are that "E-Hail Apps are having the greatest effect on passengers and drivers in places that tend to be under-served by taxis" and that "the overall financial impact on both FHV (i.e. Limousine) and medallion industries has been small"; although eHail constitute 28% of all early morning bookings" over a 24 hour period "eHail bookings accounted for 0.45%" of all taxi bookings; with the ehail bookings peaks at 8.00am and 10.00pm. This study indicates that booking apps offer little value add and are not the disruptive force many consider. Conversely in San Francisco, a city under serviced by Taxis and public transportation systems the impact has been far greater. The following graph demonstrates the impact of Lyft and Uber in that city where ride sharing services have serviced significant unmet taxi demand.
5. Aside from the San Francisco data there is no independent data on Illegal ride sharing such as Uber X and Lyft, only dubious in-house PR but their value added services have captured significant attention and positive consumer feedback.



This graph shows the average amount of trips made per taxi in San Francisco has plummeted over the last several months.

San Francisco Municipal Transportation Agency

So what happens when the big taxi network players finally get their act together?

These taxi network players have reach and an ability to deliver several value added services. Networks have brand and livery which when combined with an Australia wide App and payment will make them a compelling proposition for the bulk of Taxi bookings. Their impact on the likes of Ingogo and GoCatch will be significant as these players will be caught in a squeeze between Uber and its illegal ride sharing and Cabcharge affiliated networks offering "value add" services.

So what happens when the Regulators finally get their act together on metering and fare pricing?

Again the likes of Ingogo and GoCatch will be further squeezed as the competition intensifies between the networks with greater pricing freedom to meet peak demands and Uber services. Further in this phase, new operators enter with different service offerings and most likely lower operating costs.

So what happens when the Regulators finally get their act together on opening industry access?

Finally customers are faced with a real choice and all vehicles are brought within a common regulatory framework and demand/supply are better matched.

At this point the Uber/Lyft offering is under serious challenge. Their operators face increasing costs, their own revenues will be squeezed as drivers seek out the most competitive packages and are no longer captive to the booking app.

The booking market will become increasingly fragmented. We see some of this today with "boutique" services emerging in some markets (e.g. offering services targeting unaccompanied

minors, or seniors). They could develop both virtual fleets (like Uber) as well as physical fleets of taxis. This combination will provide them with lower operating costs than the majors.

In summary the future for Booking Apps involves:

1. It is unlikely that taxi-booking apps in the form they are today will survive.
2. Uber, despite its push to be synonymous with demand driven transportation will be driven down a revenue squeeze but with higher cost bases.
3. Subsidies will vanish and the push will be to lower costs and protect revenues
4. Only those apps that offer significant value added services to passengers AND drivers will survive.
5. Network initiated booking, increasingly via apps, will continue to provide fulfillment for 30 to 40% of all taxi journeys with the bulk of the work in poorly serviced areas and in early mornings and late evenings. Rank and hail will continue to constitute the bulk of the work until better demand and supply matching is achieved via pricing.

Concluding Comments

Whilst the Panel's report correctly identified that the keys to Taxi industry reform lie in;

1. Eliminating restrictions on the supply of taxis that limit choice;
2. Encouraging technological change that can benefit consumers;
3. Reducing in the current level of red tape that applies to (taxi) industry;

BUT the Report failed to address the key policy lever to effect reform. Namely the application of transparent dynamic time of day and locational pricing models to determine fares in taxis to provide accurate price signals to passengers and drivers and better match supply and demand. This is despite the success of its application in other network industries and the availability of the technology to underpin its use in taxis. The use of regulated price caps has removed key market signals and the industry is an excellent example of the worst aspects of a central planned economy with technocrats determining what can be produced, when it can be produced and at what price it can be sold.

Pricing is key to better match supply and demand on a time of day and location basis. Uber has demonstrated that this is the key factor in matching supply and demand curves. CabFare has outlined how such a pricing model can operate.

Coupling pricing reform with new regulatory models, freeing regulators from Ministerial oversight, and encouraging more dynamic fleet scheduling is correct the path to industry reform. Fiddling with booking apps and licensing will do little to deliver the much needed industry reform the Panel identified.

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