Policy Ideas № 57

November 2018

E-hailing regulations: striking the right balance

Laurence Todd, Adli Amirullah and Chiang Hui Xing

IDEAS
INSTITUTE FOR DEMOCRACY AND ECONOMIC AFFAIRS

Executive Summary

E-hailing has revolutionised the private transport market in recent years. Consumers are able to summon a ride whenever and wherever they want and settle the bill electronically all through an app. This has made travelling around easier for the consumer and provided a new source of employment for e-hailing drivers. However, these new developments have also created some controversy: traditional taxi drivers and operators have been impacted by the new competition and policy makers have faced the challenge of regulating this new industry - several governments have even taken the approach of banning e-hailing platforms. In Malaysia the government has decided to regulate e-hailing and put this new market on a level playing field with traditional taxis.

This Policy Ideas considers the following issues: i) the economic impact of e-hailing in Malaysia, for consumers, drivers and the traditional taxi industry; ii) the impact of the government's new regulations on the e-hailing market; and iii) how the government should develop the regulatory framework going forward in light of these considerations.

This paper concludes that:

The economic impact of e-hailing has been positive, by complementing public transport; providing greater consumer choice; and offering a new source of flexible employment.

The increased competition has had a somewhat negative impact on the traditional taxi industry, but this is mitigated by the ease with which taxi drivers can adopt e-hailing technology themselves and the overall increase in the private hire market.

The Malaysian government should be applauded for taking the approach of putting e-hailing on a sound legal footing, rather than banning it as other countries have.

New regulations which relate to ensuring driver and user safety are welcome, however the regulations also introduce costly new requirements and duplications of existing processes for e-hailing operators and drivers which will negatively impact the e-hailing industry, ultimately resulting in worse outcomes for consumers.

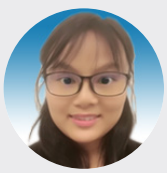
These negative consequences largely arise from the government's approach of "copying across" existing regulations applied to traditional taxi services, which impose a high burden on that sector.

We recommend that the government take the opportunity for a "blank slate" approach: reforming the regulations for both e-hailing and traditional taxi services to make both industries more competitive.

Specifically, the government should maintain low barriers to entry for new operators, ease the burden on drivers, avoid controlling prices and liberalise the overall supply.

Laurence Todd is the Director of Research and Development at IDEAS. Laurence is a public policy professional with a wide range of experience in economic policy, business regulation and international trade. Prior to joining IDEAS, Laurence served in a number of different roles in the UK Government, including in Her Majesty's Treasury and the Ministry of Defence.

Adli Amirullah is economist and research co-ordinator for the Economics and Business unit at IDEAS. He received his Bachelor's Degree in Economics from the International Islamic University Malaysia (IIUM). He was a Royal Education Award recipient for 33rd IIUM Convocation who has shown outstanding performance in academic and co-curricular activities.



Chiang Hui Xing is a final year student at the University of Malaya pursuing bachelor's Degree in Economics, with a major in Administrative Studies and Politics. She is currently an intern under the IDEAS Research Unit

Introduction

E-hailing is the term used for ordering a car, taxi, limousine, or any other form of transportation pick up via electronic devices including, computers or mobile devices. There are currently at least 23 e-hailing apps available in Malaysia[1]. E-hailing is part of a wider development in the economy towards a "sharing economy", where private citizens can share assets and services over a platform which efficiently connects users and providers.

E-hailing, and the sharing economy in general, have broadly been seen as a positive development for consumers, who have gained access to greater choice and generally lower prices. However, e-hailing has also disrupted the traditional taxi industry, prompting calls that the services be banned or at least regulated to the same standards as traditional taxis. In Malaysia the government has introduced a new set of regulations, which entered into force in July 2018, but with a one-year moratorium to give drivers and platforms time to adjust.

In this Policy Ideas we consider the impact of e-hailing and the likely effect of the new regulations:

First, we consider the impact that e-hailing services have had, including on the consumer, on drivers and on the traditional taxi industry;

Next, we consider the nature of the new regulations, how well they deliver their stated objectives and what impact they are likely to have on e-hailing services; and

Finally, we consider how the regulatory framework for both e-hailing services and the traditional taxi industry could be developed to improve consumer welfare.

This paper is based on interviews and Focus Group Discussions with a range of different stakeholders, including e-hailing operators and drivers, traditional taxi drivers and firms, government regulators and academics. Alongside this, we have reviewed the relevant literature and conducted our own analysis of the proposed regulations in Malaysia and how they compare to the approach taken in other countries.

[1] *Grab, MyCar, EzCab, Dacsee, Pick n Go, Gabir, Mula, Blacklane, Riding Pink, Diff, Zepp On, Quulo, Jomrides, eevom, D.O.B, Tumpang, Droupr, Frentz, Woom (girls only), Bitcar, Arcade City, Deli Cabs, Mahkota*

Impact of E-hailing Services

In recent years, with the technological advancement and convenience of mobile apps, the emergence of e-hailing has had a major impact on the public transport and taxi industries in many countries. With the widespread use of e-hailing, various studies on the impact of e-hailing services on the economy have been conducted.

In this section we consider these studies and the situation in Malaysia, to assess the impact of e-hailing from three different perspectives: i) the impact on consumers; ii) the impact on e-hailing drivers and iii) the impact on the traditional taxi industry.

The Consumer Market

It is clear that the emergence of e-hailing services has provided consumers with significantly more choice when it comes to private hire transportation. In a well-functioning market, this additional choice should result in a higher degree of competition which will reduce costs for consumers and improve the available service. New technologies can also bring risks to consumers, in terms of safety and the potential for anti-competitive practices. Overall the consumer response to e-hailing services in Malaysia has been positive, with SPAD reporting that 80% of consumers prefer e-hailing to traditional taxis (Premananthini , 2016).

Lower Prices

Estimating exact price comparisons is difficult as most e-hailing services use a dynamic pricing model, which introduces "surge pricing" at different times based on the relative supply of drivers and demand from consumers. Traditional taxis will also tend to charge higher prices at peak hours, but this is not as dynamic or variable as the surge pricing used by e-hailing services. E-hailing services also tend to use different pricing models from traditional taxis. For example, GrabCar in Malaysia charges solely based on distance travelled, whilst traditional taxis in Malaysia charge based both on distance and time. Different e-hailing services can also operate different charging models.

Studies in other countries suggest that the availability of e-hailing services has lowered the cost of private hire transportation as e-hailing prices tend to be lower than traditional taxi prices. Silverstein (2014) shows that Uber is cheaper in most major American cities, even excluding the taxi driver's tip, as shown in Table 1 below. This is based on calculating the fares for a trip of 5 miles in 10 minutes under a car speed of 30 miles per hour with no waiting time and without "surge pricing". Only in New York and Philadelphia are traditional taxis cheaper, and that is no longer the case once a 20% tip is factored in for taxi drivers.

Table 1. Comparison of Uber and taxi fares in major US cities, 2014

City	Uber	Taxi	Taxi/ Uber	Taxi +20% Tip	Taxi/Uber
New York	17.75	15.50	0.9	18.60	1.0
Philadelphia	15.25	14.20	0.9	17.04	1.1
Portland	15.05	15.00	1.0	18.00	1.2
Cleveland	13.00	13.95	1.1	16.74	1.3
Dallas	10.30	11.25	1.1	13.50	1.3
Miami	13.25	14.50	1.1	17.40	1.3
Indianapolis	11.65	13.00	1.1	15.60	1.3
Phoenix	11.00	12.50	1.1	15.00	1.4
Minneapolis	12.15	14.25	1.2	17.10	1.4
Baltimore	10.75	13.05	1.2	15.66	1.5
Columbus	10.20	12.85	1.3	15.42	1.5
Denver	10.35	13.75	1.3	16.50	1.6
Detroit	12.30	16.50	1.3	19.80	1.6
Seattle	11.70	16.00	1.4	19.20	1.6
San Francisco	12.30	17.25	1.4	20.70	1.7
Chicago	9.50	14.00	1.5	16.80	1.8
Boston	11.10	16.60	1.5	19.92	1.8
Atlanta	10.00	15.00	1.5	18.00	1.8
Houston	9.00	13.75	1.5	16.50	1.8
San Diego	11.35	17.80	1.6	21.36	1.9
Los Angeles	9.40	16.35	1.7	19.62	2.1

Fare sources: Uber, TaxiFareFinder.com

Malaysian price comparison website iPrice(2016) conducted a study on the relative prices for different journeys offered by Uber, Grab and traditional taxis across South East Asia. For Malaysia, iPrice, (2016) found that the cheapest option for short journeys (5km) was Grab, and the cheapest option for longer journeys (20km) was Uber. For another price comparison site, CompareHero.com, Ooi (2016) conducted a similar analysis for Malaysia specifically and concluded that: "Grab offers lower rates for average rides compared to taxis or hired cars and also Uber at the moment, thus being the preferred choice for many consumers today."

Both of these studies were based on data from 2016 and since then Uber and Grab have merged operations in South East Asia, including in Malaysia. Also, during this period, new regulations have been introduced for e-hailing, which we will discuss in more detail later. The net effect of these changes is likely to have been a moderate increase in prices for e-hailing services due to less competition and fewer drivers on the roads. This has led to some reports that traditional taxis in Malaysia are now cheaper than e-hailing providers for some journeys (Aris, 2018)[2]. In the same period, SPAD has also revised the rates for taxis.

Our own analysis suggests that in general e-hailing services (taking Grab as an example) are cheaper than traditional taxis, but that, depending on the level of surge pricing, for some journeys at both peak and standard times, traditional taxis may be the cheaper option.

Table 2. IDEAS analysis of Grab and taxi prices, 2018

Journey	Distance based on SPAD (KM)	Distance based on Google Map (KM)	Time (Min)	SPAD Budget Taxi Rate* (RM)	Budget Taxi fare on FareFinder (RM)
Titiwangsa Station – PWTC	1.20	1.40	2.0 - 6.0	3.25	5.21
KLCC – Pavilion	1.50	1.10	3.0 - 6.0	3.63	5.87
The Mines – KTM Serdang	2.10	2.20	4.0 - 13.0	4.38	8.47
LRT Masjid Jamek – Bukit Bintang	2.50	3.00	11.0 - 15.0	4.88	11.43
LRT Kelana Jaya – Paradigm Mall	2.60	3.00	7.0 - 10.0	5.00	9.69
Hospital Serdang – IOI City Mall	2.60	1.70	4.0 - 8.0	5.00	6.80
KTM Sg. Buloh – Hospital Sg. Buloh	2.70	3.00	7.0 - 10.0	5.13	10.11
KTM Subang – Sunway Pyramid	4.80	5.60	10.0 - 15.0	7.75	14.71
University of Malaya - One Utama (New Wing)	N/A	8.90	15.0 - 20.0	N/A	21.04

* use distance based on distance on SPAD website.
Budget taxi fare finder: https://www.numbeo.com/taxi-fare/in/Kuala-Lumpur
Use distance based on google map.

Peak hour: 15km/h.
Standard hour: 20km/h.
Non-peak hour: 40 km/h.

[2] *For example, https://www.freemalaysiatoday.com/category/nation/2018/07/09/now-taxis-cheaper-than-grab/*

Journey	JustGrab Peak Hour (RM)	GrabCar Peak Hour (RM)	JustGrab Non-Peak Hour (RM)	GrabCar Non-Peak Hour (RM)
Titiwangsa Station – PWTC	5.00	5.00	5.00	5.00
KLCC – Pavilion	11.00	11.00	5.00	5.00
The Mines – KTM Serdang	7.00	7.00	5.00	5.00
LRT Masjid Jamek – Bukit Bintang	16.00	16.00	6.00	6.00
LRT Kelana Jaya – Paradigm Mall	8.00	8.00	5.00	5.00
Hospital Serdang – IOI City Mall	9.00	9.00	9.00	9.00
KTM Sg. Buloh – Hospital Sg. Buloh	7.00	7.00	6.00	6.00
KTM Subang – Sunway Pyramid	15.00	15.00	10.00	10.00
University of Malaya - One Utama (New Wing)	18.00	18.00	11.00	11.00

Journey	Budget Taxi Peak Hour (RM)	Budget Taxi Non-Peak Hour (RM)	Budget Taxi fare on FareFinder (RM)
Titiwangsa Station – PWTC	4.50	4.00	5.21
KLCC – Pavilion	5.19	4.56	5.87
The Mines – KTM Serdang	6.56	5.69	8.47
LRT Masjid Jamek – Bukit Bintang	7.48	6.44	11.43
LRT Kelana Jaya – Paradigm Mall	7.71	6.63	9.69
Hospital Serdang – IOI City Mall	7.71	6.63	6.80
KTM Sg. Buloh – Hospital Sg. Buloh	7.94	6.81	10.11
KTM Subang – Sunway Pyramid	12.75	10.75	14.71
University of Malaya - One Utama (New Wing)	22.15	18.44	21.04

Journey	Taxi IM Peak Hour (RM)	Taxi 1M Non-Peak Hour (RM)
Titiwangsa Station – PWTC	5.80	5.20
KLCC – Pavilion	6.63	5.88
The Mines – KTM Serdang	8.28	7.23
LRT Masjid Jamek – Bukit Bintang	9.38	8.13
LRT Kelana Jaya – Paradigm Mall	9.65	8.35
Hospital Serdang – IOI City Mall	9.65	8.35
KTM Sg. Buloh – Hospital Sg. Buloh	9.93	8.58
KTM Subang – Sunway Pyramid	15.70	13.30
University of Malaya - One Utama (New Wing)	25.00	20.55

* use distance based on distance on SPAD website.
Budget taxi fare finder: https://www.numbeo.com/taxi-fare/in/Kuala-Lumpur
Use distance based on google map.

Peak hour: 15km/h.
Non-peak hour: 20 km/h.

This analysis is based on the official taxi rates set by SPAD. In practice, there continue to be reports of taxi drivers refusing to properly meter their journeys and instead insisting on direct negotiation with the customer, leading to higher prices. Traditional taxis have also been accused of deliberately taking longer routes to increase fares. SPAD received over 9,000 complaints relating to taxis in 2014, the top three issues reported were: i) the refusal to use meters; ii) not taking the shortest route; and iii) unsafe conduct (Sukumaran, 2015). These practices will result in higher prices being paid, adding to the competitive advantage of e-hailing services where prices are set automatically and the user can track the route being taken.

Comfort and convenience

Aside from lower prices, e-hailing services have also benefitted consumers by providing greater comfort and convenience. As we just noted, traditional taxis have been accused of refusing to use meters or deliberately taking longer routes to increase fares. The transparency of e-hailing prevents these behaviours as the process of setting prices and determining routes is automatic.

E-hailing services also offer greater convenience and accessibility, with consumers able to summon a ride to their destination rather than having to hail a car in the street. Indeed, the survey by SPAD revealed that the main reason consumers prefer e-hailing to traditional taxis is accessibility (Premananthini , 2016).

A survey by the Public Transport Council in Singapore found that e-hailing services attained higher levels of customer satisfaction than traditional taxis (Lim, 2017). The survey found that e-hailing services fared better than taxis in all comparable categories, including waiting times, ease of booking, information on services, and ride comfort. E-hailing services also fared better than taxis in drivers' knowledge of routes, customer service provided by the driver, and safety. The widest gap between e-hailing services and traditional taxis was for the ease of booking, underlining the importance of convenience in determining consumer preference for e-hailing.

Aside from transparency, convenience, accessibility and comfort, e-hailing services have also introduced other innovations, such as the use of consumer loyalty programmes which award points based on journeys which can be exchanged for rewards. In their study, "The Influence of Customer Satisfaction on Ride-Sharing Services in Malaysia", Balachandran and Ibrahim (2017) analysed the relative importance of these different factors on customer satisfaction with e-hailing services. Among all the variables, comfort was found to be the most influential factor on customer satisfaction, followed by price, reliability and, promotion and coupon redemption. In line with this finding, the President of Malaysia Consumers Movement, Dhillon (2017) acknowledged the convenience and efficiency of the e-hailing services compared to the conventional taxi services.

This suggests that while the emergence of e-hailing services has had a positive impact on prices for consumers, it is other factors including comfort and convenience that have played as important a role, and potentially a more important role, in motivating consumer preference for e-hailing services.

Wider benefits

Beyond the benefits for the individual consumer, e-hailing also brings wider benefits to the economy from greater use by consumers of e-hailing services.

Use of public transport is relatively low in Malaysia, at 20% in 2015 according to the National Land Public Transport Master Plan. This is partly due to limited coverage of the public transport network. This contributes to higher use of private vehicles, which in turn drives congestion. The 12th Malaysia Economic Monitor by the World Bank estimated that people in Greater Kuala Lumpur spent over 250 million hours per year stuck in traffic congestion which cost an estimated 1.1% to 2.2% of GDP (RM12.7bil – RM24.7bil) in economic losses in 2014 (The World Bank, 2015).

Evidence from other countries suggests that e-hailing services contribute to existing public transport infrastructure. According to Rayle et al. (2014), e-hailing have enhanced mobility options for urban residents, especially those in large and dense cities like San Francisco where parking is limited and public transport incomplete. The authors conclude therefore that e-hailing complements rather than competes with public transit.

As a result, e-hailing services can also have a positive impact on congestion. Li et al. (2016) studied and compared the before and after effects of Uber entry on traffic congestion in urban areas of the United States. Their research concluded that e-hailing services such as Uber significantly reduced traffic congestion time, congestion costs and excessive fuel consumption in urban areas. The positive impact was attributed to three main factors. First, that ride-sharing increases vehicle occupancy, thus potentially decreasing the total number of cars on the road, and hence reducing traffc congestion. Second, the dynamic price surging feature in ride-sharing platforms such as Uber helps to ease traffic congestion during peak hours. This is mainly because the price of hailing a car in peak hours can surge quite high, hence users who are price sensitive will tend to delay their travel schedule or use public transit instead, subsequently reducing numbers of vehicles during peak hours, and relieving traffic congestion is. Third, e-hailing maximizes vehicle capacity, as technology advancements such as GPS and smartphones, integration of electronic payment systems in the ride-sharing platform and sophisticated algorithms to match demand with supply help to utilize the vehicle capacity on streets, meaning that Uber drivers will spend less time wandering streets searching for passengers, which in turn reduces excess fuel usage and traffc congestion.

In Malaysia, according to Kandasivam (2017), the study conducted by the Boston Consulting Group (BCG) and commissioned by Uber, claimed that if e-hailing was adopted to its fullest, it would have the potential to reduce peak-hour congestion in Kuala Lumpur by 91%. To the extent that e-hailing is reducing congestion, this will have a wider positive impact on the economy, given the cost congestion has on the wider economy as highlighted by the World Bank.

Risks to consumers

So far, we have noted the various benefits that the emergence of e-hailing services has brought to consumers, both individually and through wider benefits to public transportation. But it is important to note that there are certain risks to consumers that can arise from the emergence of new technologies. In terms of safety, wholly unregulated services present a risk to consumers safety, both because drivers might not necessarily undergo sufficient background checks or possess the necessary level of insurance. In some cases, this risk will be mitigated by good business practices and awareness of the reputational risk of failing to do so. For example, Grab voluntarily introduced a number of safety measures (Grab, 2017), including full background checks on potential drivers and an "SOS" button for passengers. The new regulations which will be considered in more detail later are designed to address this risk.

In terms of safety, wholly unregulated services present a risk to consumer safety, both because drivers might not necessarily undergo sufficient background checks or possess the necessary level of insurance.

Another risk to consumers may emerge from abuse of market dominance by e-hailing operators. Following the merger of Uber and Grab, Grab is now the majority player within the e-hailing market, at least in Klang Valley. There is a risk that this market dominance could be used to exercise undue market power, resulting in worse outcomes for consumers in the long run. There is no evidence that this is happening now, as it is clear that prices remain competitive, but it is important that barriers to entry for new players remain low to ensure that competition can remain healthy in the e-hailing market.

Impact on drivers

Now we consider the impact of new e-hailing services on e-hailing drivers, whether they are new drivers or traditional taxi drivers migrating to the new e-hailing platforms.

Flexible employment

One crucial impact that the emergence of e-hailing services has been the creation of more flexible employment opportunities for drivers. E-hailing platforms have historically had very low barriers to entry and can accommodate very flexible working patterns. Demand for this form of flexible employment is high in Malaysia. Underemployment is relatively high in Malaysia: according to the Department of Statistics, 221,000 employed persons are willing to accept additional income. E-hailing provides a simple option for supplementary income.

In addition to supplementary income, e-hailing services also offer an option for part time work for those that are not able to work full time, or even regular part time work but can work a few hours here and there, such as students and full-time carers. According to the Ministry of Transport, of the 200,000 e-hailing drivers active in Klang Valley, 75% work part-time, which underlines the popularity of e-hailing services as a source of part-time or supplementary income.

In addition to supplementary income, e-hailing services also offers an option for part time work for those that are not able to work full time, or even regular part time work but can work a few hours here and there, such as students and full-time carers.

Improved driver productivity

The technology of e-hailing also improves driver productivity. Razieman et al. (2015) highlight that the introduction of e-hailing technology has affected the productivity of drivers through reduction of waiting time, improved utilisation of time and vehicle, improvement of system accuracy and system efficiency. According to research conducted in Singapore by Liao (2001), the advancement brought by the e-hailing system enables higher handling capacity compared to the previously phone-based system as it allows a higher volume of reservations to be processed with the same level of manpower within the specific period. Liao (2001) also suggested that e-hailing system together with the GPS system in the taxi industry can help to address the issues including, mismatch of the demand for supply of taxi services, noise interruption by radio-paging system, long confirmation time by taxis and imbalance of job segregation based on location. This is because through its algorithm and real-time response system, the users could estimate the arrival time of the taxis and access live update of available taxis in the nearest location. Hence, the movement of taxis are optimised.

Higher driver pay

This increase in productivity should also lead to higher pay, as although individual fares may be lower, the improvements in productivity allow more fares to be completed over the same period. Research by Hall and Krueger (2016) found that earnings per hour for Uber drivers are higher than the hourly wages of taxi drivers and chauffeurs in Boston, Chicago, Washington, Los Angeles, New York and San Francisco.

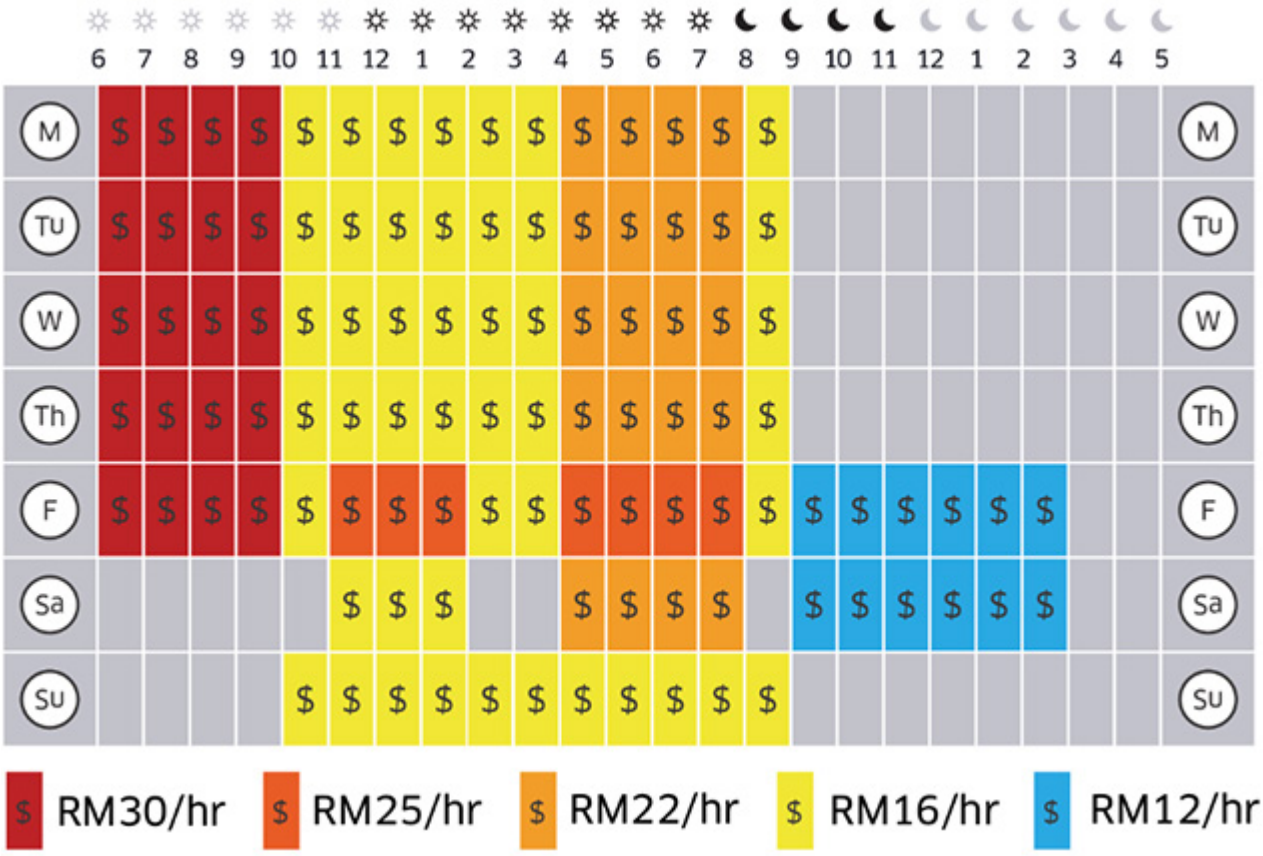
Table 3. Comparison of Estimated Net Hourly Profits of Uber Driver-Partners and Hourly Wages of Taxi Drivers and Chauffeurs, October 2015

City	Uber Driver-partners (net earnings per hour)	Taxi Drivers and Chauffeurs (Hourly wages)
Boston	$20.86	$12.96
Chicago	$16.23	$12.54
Washington DC	$18.45	$14.26
Los Angeles	$18.43	$14.53
New York	$23.69	$15.74
San Franciso	$23.87	$13.92
Average	$19.35	$12.56

It is difficult to assess pay levels of e-hailing drivers in Malaysia, given the variety in working hours and patterns and the difference in earning potential depending on whether drivers are willing and able to work during peak times. Given the dynamic pricing and significant incentives put in place during peak hours, it is possible for e-hailing drivers to earn significantly more if they plan their time effectively.

In May 2016, Uber provided its drivers with a chart which demonstrated the additional earning potential if drivers are prepared to work during peak hours.

Figure 1. Pay structure for UberX Drivers, iMoney, 2016



Using this information, Ho (2016) concluded that it was possible to earn nearly RM2,000 per week as a full time Uber driver. However, this is predicated on working 95 hours per week, which is very high. Nevertheless, there are anecdotal accounts of full-time e-hailing drivers being able to earn RM8,000 per month if they are prepared to work during peak times and maximise incentives.

More moderate estimates are provided by salary comparison websites. The table below compares the average reported salaries of a traditional taxi driver and a Grab driver.

Table 4. E-hailing and Taxi Earnings Comparison, 2018

Source	Taxi	Grab
Indeed, accessed October 2018	-	RM4,434 per month
Salary Expert, accessed October 2018	RM43,909 per year	RM62,300 per year

These figures are consistent with the analysis above and the anecdotal evidence that full time e-hailing drivers can expect to earn RM20-RM40 per hour, if they work during peak times and maximise incentives whilst part time e-hailing drivers who are unable or unwilling to work peak hours will earn closer to RM10 per hour. Drivers who are willing to maximise their earning potential are likely to earn more than their traditional taxi counterparts.

This conclusion is supported by anecdotal evidence that taxi drivers who migrated to e-hailing platforms went on to enjoy higher levels of pay (Muhamading , 2017). Conventional taxi drivers, particularly those in Klang Valley claimed that their income had doubled upon their registration with e-hailing service providers.

Risks to drivers

As we discussed in relation to consumers, there are also potential risks to drivers associated with new e-hailing technology. Again, the issue of safety has been raised, particularly in the case where services are unregulated, including whether drivers have the right insurance. As in the case of consumers, the new regulations for e-hailing in Malaysia are in part designed to address this.

On the issue of pay, although we noted above that the evidence suggests that e-hailing services have improved the pay of drivers, there are complaints that commission rates for drivers are very low, and that drivers are being exploited by e-hailing platforms. A related risk to drivers is that they are overly penalised by the consumer feedback system common among e-hailing platforms. E-hailing drivers have raised concerns that e-hailing operators overly prioritise the passengers and this leads to unfair treatment of drivers, including exclusion from the platform for unclear reasons. Some drivers have suggested that there is a need for a mechanism for drivers to defend themselves or appeal if they are being reported by the passengers. The broader risk here is that driver welfare is compromised if any single e-hailing operator is able to exercise undue marker power – if different platforms are available, drivers can more easily migrate if they feel that pay or other conditions are unfair. That is why it is important to ensure there is competition in the market place and that there are low barriers to entry for new players.

E-hailing drivers have raised concerns that e-hailing operators overly prioritise the passengers and this leads to unfair treatment of drivers, including exclusion from the platform for unclear reasons.

Impact on traditional taxi industry

There has been much attention paid to the impact of e-hailing services on traditional taxis. We have already touched on a few of the points. It is clear, that e-hailing services present traditional taxi services with a major competitive challenge.

Impact of market share

The most visible impact on the traditional taxi industry is the loss of market share. Wallsten (2015), finds that Uber's entry into the market has gradually reduced demand for traditional taxis. The number of trips by taxis in New York fell by 8% between 2012 and 2014. The trend was even more acute in San Francisco, where use of taxis declined by 65% in the two years after Uber's entry.

In Malaysia, the President of the Malaysian Association of Taxi, Rental Car and Limousine Drivers, Zailani Isaisuludin claimed due to the growing of e-hailing services, earnings of taxi drivers had reduced by 70% (Kannan, 2018). In a similar vein, taxi drivers at the main bus terminal in Port Dickson claimed the they barely earn RM20 a day, as a result of competition from e-hailing drivers *(The Star Online, 2018)*.

This loss of market share is unsurprising, given the significant growth in the e-hailing market. However, e-hailing has also contributed to an overall growth in the market - a study made by SPAD found that the majority of those using e-hailing services are between the age of 18 to 24 and were new users of the service. The regulator argued that this can be an opportunity to the conventional taxi market as the overall market demand has been increased by these new users. In addition, some taxi drivers have reported preference for taxis amongst certain groups. In Kuching, tourists apparently prefer taxis due to safety concerns when travelling a long distance.

Impact on driving practices

Many taxi drivers and operators have chosen to adopt e-hailing technology in response to increased competition. As we discussed above, this can result in increased revenue, but will also impact driving practices. E-hailing technology increases the number of potential fares that can be accepted in a given period, and maximising potential revenue requires working during peak hours. To some extent this could alter the working practice of existing taxi drivers, who are used to work a certain way.

Role of regulations in determining the impact

The relative levels of regulation will have had some role in determining the scale of impact. On the one hand, e-hailing services have had the relative advantage of being "unregulated", which has allowed them to operate at lower cost and offer more competitive prices. In addition, the traditional taxi industry has suffered from having a relatively high level of regulation, stifling its ability to compete and innovate. This imbalance has motivated calls from the taxi industry for a "levelling of the playing field".

However, this relative imbalance in regulation only goes so far. The greater source of competition is the underlying innovation of e-hailing service and the resulting improvements in price, quality and productivity detailed earlier. Indeed, the lack of regulatory pressure has likely only contributed to price advantage that e-hailing services have enjoyed, and as we have noted this is often not cited as the principal driver of consumer preference, which is often focussed on accessibility and comfort.

The impact of the proposed and existing regulation on the relative competitiveness of the e-hailing and traditional taxi industries respectively will be considered in more detail in the next section.

Proposed Regulations on E-Hailing

Following the significant growth in e-hailing, many countries around the world are grappling with the question of how to regulate this new service. Some countries have taken the approach of banning e-hailing services outright, although this approach has been difficult to implement effectively given the popularity of these services with consumers.

Malaysia has adopted a different approach, proposing instead to place e-hailing services within a legal framework and regulate it. This approach was originally taken by the previous *Barisan Nasional* administration but is being maintained under the new government.

In this section, we consider the likely impact of the new regulations and the extent to which they meet the goverments objectives.

The new regulations

On 27th August 2017, the Dewan Rakyat passed the bill of the amendments to the Land Public Transport (LPT) Act 2010 and Commercial Vehicles Licensing Board (CVLB) Act 1987. The Bill defined an e-hailing vehicle as a motor vehicle with a seating capacity of four persons and not more than 11 persons (including the driver) for any journey for single or separate fares with booking made through electronic mobile apps.

Following the election of the Pakatan Harapan government on 9 May 2018, Transport Minister Anthony Loke announced that effective 12 July 2018, all e-hailing companies are strictly required to register with the Land Public Transport Commission (SPAD) and comply to a set of regulations that are in line with taxi industry. The stated aims of the new regulations are to:

- Provide a legal framework for e-hailing services;
- Ensure the safety of passengers, drivers and the wider public; and
- Establish a level playing field between e-hailing services and traditional taxi services.

E-hailing service providers have given up to one year to adjust to the regulations stipulated under the law but there remain a number of details that are yet to be confirmed about the exact process for complying with the new regulations.

Table 5. New e-hailing regulations, 2018

No.	Regulation	Impacted
1.	E-hailing operators must obtain a Business Mediation License (LPP) from the Land Public Transport Agency (SPAD), requirements are • registration with the Companies Commission of Malaysia (SSM) or the Malaysian Co-operative Societies Commission (SKM); • paid-up capital of at least RM100,000; • must have a member of the board of directors or member of the cooperative board who has citizenship and is residing in Malaysia	E-hailing operators
2.	Commission rate for e-hailing companies reduced from 25 percent to 20 percent for services run by personal vehicle drivers	E-hailing operators, e-hailing drivers (private)
3.	Commission rate for e-hailing companies reduced 10 percent for services run by taxi drivers	E-hailing operators, e-hailing drivers (taxi)
4.	The surcharge rate is limited to double the fare price	E-hailing operators, e-hailing drivers
5.	All e-hailing applications have been instructed to be equipped with SOS / 999 emergency alert	E-hailing operators
6.	All e-hailing companies to prepare code of conduct and guidelines for drivers that could be audited by the government, in order to protect the welfare of the drivers	E-hailing operators, e-hailing drivers
7.	E-hailing drivers must obtain public service vehicle (PSV) licence and renew annually. Requirements are: • Malaysian; • aged not less than 21 years old; • Competent Driving License (CDL); • not blacklisted by PDRM and RTD and has no outstanding compound with SPAD / APAD;	E-hailing drivers
8.	E-hailing drivers must possess insurance coverage for driver, passenger and third party	E-hailing drivers
9.	E-hailing drivers must undergo health check-ups	E-hailing drivers
10.	E-hailing drivers must undergo criminal records checks	E-haling drivers
11.	E-hailing drivers are required to undergo a driving training programme provided by JPJ	E-haling drivers
12.	E-hailing vehicles mush have at least three-star rating of ASEAN New Car Assessment Programme (NCAP) or equivalent	E-hailing drivers, e-hailing vehicles
13.	E-hailing vehicles to undergo vehicle inspection at the Computerised Vehicle Inspection Centre (PUSPAKOM) for at least once a year for vehicles that are more than three years old	E-hailing drivers, e-hailing vehicles
14.	Passengers of e-hailing service users are required to upload valid identification card or passport details upon registration to ensure the safety of the drivers	E-haling operators, e-hailing passengers

From Table 5, we can see that there are at least 14 different provisions included within the new regulations, relating to e-hailing operators, drivers, passengers and vehicles. In terms of delivering the government's stated objectives, it is clear that the regulations do provide a legal framework for e-hailing services, by expanding the definition of commercial vehicles and requiring e-hailing operators to register with the SSM. The new regulations also significantly improve both consumer and driver safety, through mandatory background checks and insurance requirements.

The question of the level playing field is more complicated. On the one hand, these new regulations impose many of the existing requirements which apply to taxi services to e-hailing, in particular the requirement for all drivers to obtain a PSV. However, taxi services are still subject to a number of regulatory disadvantages which e-hailing services are not subject to, including strict price controls. At the same time, traditional taxi services continue to enjoy a number of benefits not offered to e-hailing services, including financial support to purchase vehicles and higher commissions to taxi drivers transferring to e-hailing platfrom. There are other differences that continue to persist, which reflect the slightly different business models: unlike taxis, e-hailing drivers cannot accept fares from the street and the new regulations make no attempt to "correct" this imbalance. Unlike e-hailing drivers, taxis are restricted in the vehicles they can use, and the new regulations do not address this. To an extent this exposes the problem with simply "copying across" the existing regulations in an attempt to level the playing field.

As at the time of writing, there remain a number of unanswered questions regarding the new regulations. Including:

- When e-hailing operators will be able to apply for Business Mediation Licences (LPP) and what the exact process will be;
- When the new training new module will be announced and who will be the providers;
- When e-hailing drivers will be able to obtain PSVs and what the exact process will be, including whether it will require a manual process, as currently applies for taxi drivers; and
- How the process for changing a given vehicle or driver covered by the licenses will be managed, given that each change will need to be notified to the regulator at a cost of RM5.

If these issues are not clarified, there is a risk that e-hailing operators and drivers will not be able to comply with the regulations by the time the one-year moratorium ends.

Setting this issue aside, the more significant implication of these new regulations are the new barriers to entry imposed both on e-hailing operators and drivers.

Barriers to entry

There is a risk with any new regulations that they act as a barrier to new entrants, which in turn reduces competition and the scope for innovation. In the case of e-hailing operators, the new barriers include citizenship requirements and paid up capital of RM100,000. More significant is the cost of the new Business Mediation Licence (LPP). E-hailing operators will be required to apply for an LPP to cover all the vehicles they wish to operate that year at a reported cost of RM115 per vehicle. The LPP cost is broadly designed to match the cost of the taxi permit paid by companies and individual taxi drivers. So, whilst the capital requirements are relatively low, the cost of obtaining the LPP could be very significant.

In addition, there are signifcant new requirements proposed for new drivers, which represent a material new cost in terms of both money and time.

Table 6. New barriers to entry for e-hailing drivers

Requirement	Financial Cost	Time [3]
Obtain PSV Licence	RM20 (annual)	4 hours (2 visits)
Vehicle Inspection	RM55 (annual)	2 hours
Driving Course	RM200	6 hours (course) 2 hours (exam)
Medical check-up	RM40	2 hours

As noted above, the precise process for complying with the new regulations has not been clarified, but Table 6 outlines the costs of compliance for e-hailing drivers. We estimate that the direct costs of compliance for drivers will be at least RM315 and likely take at least 16 hours. While these costs might be acceptable for full time drivers, they represent high costs for part-time drivers, who comprise the majority (75%) of e-hailing drivers. Assuming that part time e-hailing drivers earn RM10 per hour and work 10 hours a week, then these initial costs in terms of both direct financial costs and time are the equivalent of nearly 5 weeks work. This assumes that applying for and obtaining a license will need to be done in person, if this process can be completed online that would reduce the time required to comply.

In addition to these costs, e-hailing operators may pass down the cost of the LPP to drivers. Cost are also likely to increase as a result of the requirement for new insurance policies. Costs might also arise from the compliance requirements for vehicles - the precise details of which are currently unknown, but could include requirements for new equipment such as fire extinguishers. Together, these costs are likely to act as a significant deterrent to prospective e-hailing drivers, particularly those intending to work part-time.

There is already evidence that the announcement of these new requirements has reduced the number of drivers, for example Grab has reported a decline in new drivers following the announcement of the regulations *(The Star Online, 2018)*. This impact is very likely to increase following the entry into the force of the new requirements.

[3] *We assume that physical presence will be required, as is the current practice for PSV Taxi and that each visit will take 2 hours. In some cases, this is likely to be an overestimate, and an underestimate in others.*

Fewer e-hailing drivers will likely result in an increase in prices, as there is no indication that customer demand is likely to fall in line with supply. There are already indications that e-hailing prices have increased following the announcement of the regulations. This effect is likely to compound with the natural expectation that e-hailing operators and drivers will pass on some of the cost of compliance to the consumer.

Price controls

Another area which could result in unintended consequences is the decision to include direct prices controls as part of the new regulations. This occurs in two areas, first the imposition of a limit on surcharging, controlling the price offered to the customer. Second, the controls on commissions for the e-hailing companies, which is effectively a control on the price e-hailing companies can offer to drivers for use of their service. In the case of the consumer, the evidence suggests that e-hailing has enabled greater competition on price so is not clear why prce controls are necessary. There are two risks that could materialise from limiting surcharging: first, the resulting impact on prospective earnings could reduce the supply of willing drivers, in particular at peak times, reducing options and overall welfare for consumers. Second, there is a risk that this limits the scope for competition from new e-hailing operators, who will now be more limited in their ability to differentiate on price. There is not a monopoly in the e-hailing market, which is the normal justification for price controls, but, ironically, imposing price controls could inadvertently protect incumbents from competition.

In the case of the controls on commissions, there is the risk that this disincentivises new e-hailing operators from entering the market, either because it is less commercially viable or because they are limited in their options to innovate and therefore compete against incumbents. For example, it may be that some new e-hailing operator is able to devise some way to reward potential drivers in a way that they would prefer, in return for higher commissions to the operator, but that option for innovation is now denied. So, again, these controls have the effect of raising barriers to entry for new firms and potentially giving incumbent firms an uncompetitive advantage, despite there not being a monopoly in place which would justify the imposition of direct controls.

Options to develop the regulations

We have identified that the new regulations will put e-hailing on a clear legal footing and improve customer and driver safety. However, there are also likely to be negative consequences associated with the proposed regulations, arising from the imposition of high costs and administrative burdens on e-hailing operators and drivers. These negative consequences arise as a result of implementing the same approach of high barriers to entry used for taxi services for new e-hailing services. These high barriers to entry could inadvertently create a monopolistic situation, where larger and more well-funded companies have a clear advantage over smaller technology start-ups. The regulations are motivated by the admirable goal that taxi services and e-hailing services compete on a "level playing field". However, in establishing this playing field, the government should consider whether regulations for taxi services can be improved so that fairness does not come at the cost of the competitiveness of either service and the benefit to the consumer through a competitive and innovative market.

In order to consider whether the regulatory framework for the traditional taxi industry can be improved, we first need to consider the justification for the high regulatory burden. Cetin and Deakin (2017) has identified that the justification for the heavy level of regulation of taxis, is based on four main arguments.

- Most notable is the argument that regulation is required because there are significant **informational asymmetries** between the consumer and the taxi (Shreiber, 1981). The consumer cannot be expected to know the best route for the journey they are making, nor, accordingly, the best price. Neither do they have any information on the quality of the driver before entering into an agreement for that driver to provide a service. This argument has justified regulation which sets a high standard on the quality of the driver and the vehicle, and controls prices.

- A second justification for high levels of regulation for taxis are the **negative externalities** created by the industry. In particular, the fact that high numbers of taxis will contribute to congestion and emissions. This argument is used to justify regulation that controls overall supply of taxis in a given locality.

- Third, is that taxis provide an important component of the **public transport infrastructure**, and therefore the government is justified in regulating the industry to ensure a certain level of quality and availability. This argument is also used to justify direct controls on prices, reportedly to ensure that taxi services are accessible to all members of the public.

- Finally, is the argument that the taxi industry can have the character of a **natural monopoly**. Ironically, this is partly driven by the other arguments for regulation – the fact that the supply of taxis is limited and barriers to access are high, which means there is a risk of undue market power emerging. This argument is often used to justify price controls.

- In addition to these four, there is another issue, which is the need to protect **the cultural brand** of taxis (particularly in London and New York). Here the argument is that taxis form part of the national culture and therefore the government must ensure a certain level of quality.

These arguments have long underpinned the approach to the regulation of taxi industries in many countries, including Malaysia. Together they have led to a regulatory framework characterised by: strict controls on supply, high barriers to entry through driver and vehicle requirements, and price controls. This regulatory framework has limited the space for innovation or competition and has therefore made the traditional taxi industry particularly vulnerable to competition from e-hailing. To illustrate the extent to which the taxi industry is regulated, Djankov et al. (2002) argued that Grab's effort to open and compete as a taxi company in the District of Columbia in the United States requires more procedures than starting a small business in China, Venezuela, Mozambique, or Bolivia.

There is a significant body of evidence that the high level of regulation of the taxi industry has been misjudged[4], to the extent that Farren et al. (2016) consider it a "textbook example of regulatory failure." As a result, there are many alternatives to the regulatory approach that has traditionally been taken with regards to the taxi industry. Furthermore, as e-hailing demonstrates, recent advances in technology have provided new ways to resolve many of the problems that have historically justified high levels of regulation. Below we consider how each of the main elements of the regulatory framework can be counterproductive, and how they can potentially be improved.

[4] *See for example: Barrett, S. (2003). Regulatory Capture, Property Rights and Taxi Deregulation: A Case Study. Wiley Blackwell: Economic Affairs, 23(4), 34-40. Retrieved from https://ideas.repec.org/a/bla/ecaffa/v23y2003i4p34-40.html; Coffman, R., & Shreiber, C. (1977). The Economic Reasons for Price and Entry Regulation of Taxicabs (Comment and Rejoinder). Journal of Transport Economics and Policy, 11(3), 288-304. doi:http://www.jstor.org/stable/20052481;*

Limits on supply

Limits on the supply of taxis is justified as necessary to ensure there are not "too many" taxis which could increase negative externalities (congestion, emissions) and prompt a cycle of competition which could result in poor quality service in order to cut costs and offer lower prices. Because the government also directly controls prices, the justification for controlling supply is strengthened, because the normal functioning of the market is already disrupted. In Malaysia, the government controls supply through the issuing of taxi permits, which are issued either to companies or directly to individuals.

These limits on supply naturally lead to a mis-match between supply and demand, as the government lacks sufficient knowledge to judge perfectly the optimum number of taxis on the road. The justification for limiting supply is also weak: there are better ways to limit the negative externalities, such as through congestion charges or emissions-taxes, and there is little evidence that the taxi industry would suffer from a "race to the bottom" – indeed, as we noted earlier a major complaint with the traditional taxi industry in Malaysia is the inferior service quality, which has allowed e-hailing to compete.

Limits on supply also incentivise rent-seeking behaviour, where incumbent taxi operators are encouraged to lobby governments to maintain strict supply controls and high barriers to entry to reduce competition. This is particularly evident at airports, where multi-year concessions are given to a single company. Just as taxi regulation has become a textbook example of regulatory failure, it has also become a textbook example of what is known as "rent-seeking waste" (Farren et al. 2016). There are also anecdotal accounts that the issuing of taxi permits in Malaysia has become highly politicised in some cases, where the granting of permits is used as a tool of patronage to curry political support.

The e-hailing industry provides a clear example that unrestricted supply results in a more efficient market that can respond to consumer demand. Thankfully, the government is not proposing to introduce absolute restrictions on the supply of e-hailing drivers. And, at the same time, the government has taken steps to reduce the problems with the permit system by issuing more individual permits. However, the government should go further and consider abolishing all restrictions on the supply of taxi drivers, so that supply can respond naturally to market demand, and consider incentive-based alternatives to reducing negative externalities. Given that this could be considered a radical step, the government could consider how to achieve this on a gradual basis and in co-ordination with other regulatory reforms outlined below.

The e-hailing industry provides a clear example that unrestricted supply results in a more efficient market that can respond to consumer demand.

High barriers to entry

High barriers to entry in the taxi industry encompass requirements on both the driver and car. To some extent, these barriers are justified on the grounds of consumer safety, such as criminal records checks and insurance requirements. However, the barriers that apply in the taxi industry go much further than this and are justified by informational asymmetry – because the consumer cannot know in advance the quality of the driver before agreeing to accept the ride, the government must ensure that the quality of all drivers is at an acceptable standard to satisfy a reasonable level of expectation. This is used to justify additional tests (theory and practical) before the required permits are granted. However, evidence suggest that high barriers such as these reduce supply and suppress competition (US Department of the Treasury Office of Economic Policy et al., 2015). Furthermore, technology has provided a means to radically reduce asymmetries in the market place – using an e-hailing app, a customer is able to view information about their driver before accepting a fare (or at least when they still have an opportunity to cancel). This is supported by a networked-feedback system that allows customers to share information (in the form of reviews and ratings) about drivers. In addition, the requirement that drivers have a certain knowledge of local geography is also no longer relevant, in light of GPS technology. Some taxi companies might choose to market their services on the basis of their drivers' local knowledge, but that should be their choice.

The high levels of customer satisfaction overall with e-hailing services, and the demonstrated efficacy of customer-based feedback to monitor performance, demonstrates that the high barriers to entry typically associated with the taxi industry are not necessary.

The high levels of customer satisfaction overall with e-hailing services, and the demonstrated efficacy of customer-based feedback to monitor performance demonstrates that the high barriers to entry typically associated with the taxi industry are not necessary. While it is reasonable to impose certain requirements directly related to safety, including criminal records checks and insurance, it is not necessary for the government to impose the higher standards which relate more to service quality on e-hailing drivers, such as additional examinations beyond what is required for a driving licence. Instead, the government should abolish these requirements for both e-hailing and traditional taxi drivers, so that the only government-imposed requirements are: owning a driving licence, insurance and medical certificate. In the case of e-hailing this would maintain the relatively low barriers to entry that make e-hailing attractive to part time drivers, ensuring the supply of part time drivers remains high. In the case that this is considered too extreme, Farren et al. (2016) suggest setting a general requirement that customers should be able to have "advance screening" of driver quality and journey price, and allow companies to interpret that requirement however they wish.

High barriers also occur at the company level through the cost and process of obtaining permits. We have already noted how the government uses the permit system to directly control the supply of taxis, but through high costs, the permits also act as a barrier to entry both for the taxi

companies and individual taxi drivers. The same system is being proposed for e-hailing operators, under the LPP, which will incur costs per vehicle registered to each e-hailing operator. To some extent, the LPP is designed to match the existing taxi permit, as result the LPP cost will be more than the cost of processing, which is only RM20 per vehicle according to the recently released application form. In both the case of the taxi permit and the LPP, additional costs disincentive new entrants and are passed down to the driver and ultimately the consumer. Rather than try to recreate the existing taxi permit system through the LPP, the government should instead reduce the cost of the permit system and proposed LPP to adjust the cost of processing the application.

High barriers to entry also relate to the vehicle being used. Again, to an extent this can be justified on the grounds of safety. However, it can be argued that here too, technology-enabled customer feedback will monitor the quality of vehicles. Although, it is clear that some faults may not be visible to the consumer and therefore may not be adequately monitored by this system. This justifies some form of vehicle standardization. However, the system for monitoring this should not be costly or burdensome. In Malaysia, vehicle inspections have to be undertaken by PUSPAKOM for both taxi drivers and, under the new regulations, e-hailing drivers. The government should adopt the approach of other countries whereby inspections can be undertaken by certified mechanics, with PUSPAKOM setting the standards.

Another requirement which applies to vehicles is that they must be models that receive NCAP 3* ratings and above. However, it is not compulsory for car manufacturers to undertake the NCAP rating. Hence there are many models that could be disqualified by this rule. It is also not clear why e-hailing vehicles should be subject to different rules than private vehicles allowed to operate on the road, particularly when the vehicles in question are already subject to additional inspections as noted above.

For traditional taxi vehicles there are furhter additional requirements, including the installation of meters, safety equipment and of course paint requirements. These requirements can have the effect of creating "barriers to exit" where taxi drivers struggle to transition to different employment, including e-hailing, as they are tied to a vehicle through a lease or ownerhsip. To help address this, the government should consider introducing a "scrappage" scheme for old taxis which allows them to trade in for newer models

Price controls

Price controls have also traditionally been justified on the grounds of informational asymmetry – customers cannot know before entering into an agreement with a taxi what the right fare should be, so the government needs to set rates. Again, technology clearly presents a better solution to this problem than regulation. As we noted earlier, one of the main attractions of e-hailing is the ability to see the price in advance and know that the fare cannot be changed once the agreement is entered into. The same technology allows the customer to see the route that is being taken, and therefore eliminates the potential for the consumer to be misled about the best route and over-charged.

Controls on prices are further justified by the need to prevent taxi operators exercising undue power – a situation that could arise partly due to the limits of supply and high barriers to entry set by other regulations reducing competition. In the case of price control for taxis, as with limits of supply, this inhibits proper functioning of the market. As a result, taxi drivers are often forced to resort to direct negotiation which undermines consumer confidence in the service. It also prevents new entrants from distinguishing themselves in terms of price. More importantly, the evidence that price controls improve outcomes for consumers is weak, in fact evidence suggests they create problematic shortages and surpluses (Coyne & Coyne, 2015).

In the case of e-hailing, a more innovative and competitive service not subject to any price controls is able to offer lower prices and an improved service. It is not clear, therefore why the government is choosing to restrict surge pricing under the new regulations. Rather than seek to control prices, the government should focus on maintaining low barriers to entry for new operators and drivers to ensure healthy competition.

The government should not therefore impose any price controls on e-hailing services and should liberalise prices for traditional taxis. As with the easing of restrictions on supply this may need to be achieved gradually. To address the problem of information asymmetry for traditional taxis the government could set the general requirement that companies ensure customers have advance screening of prices, as proposed by Farren et al. (2016). This might have the effect of encouraging traditional taxi drivers and operators to adopt e-hailing technology, but the requirements can be set broadly enough for alternative methods to be used, such as printing prices on the side of the vehicle.

Policy Recommendations

So, rather than assume that applying existing regulations to e-hailing is the right approach, the government should take a "blank slate" approach, taking account of recent technology advances. The result should be to reconsider the new proposed regulations for the e-hailing industry, with a view to reducing new barriers to entry and unnecessary price controls, and deregulation of the existing taxi industry.

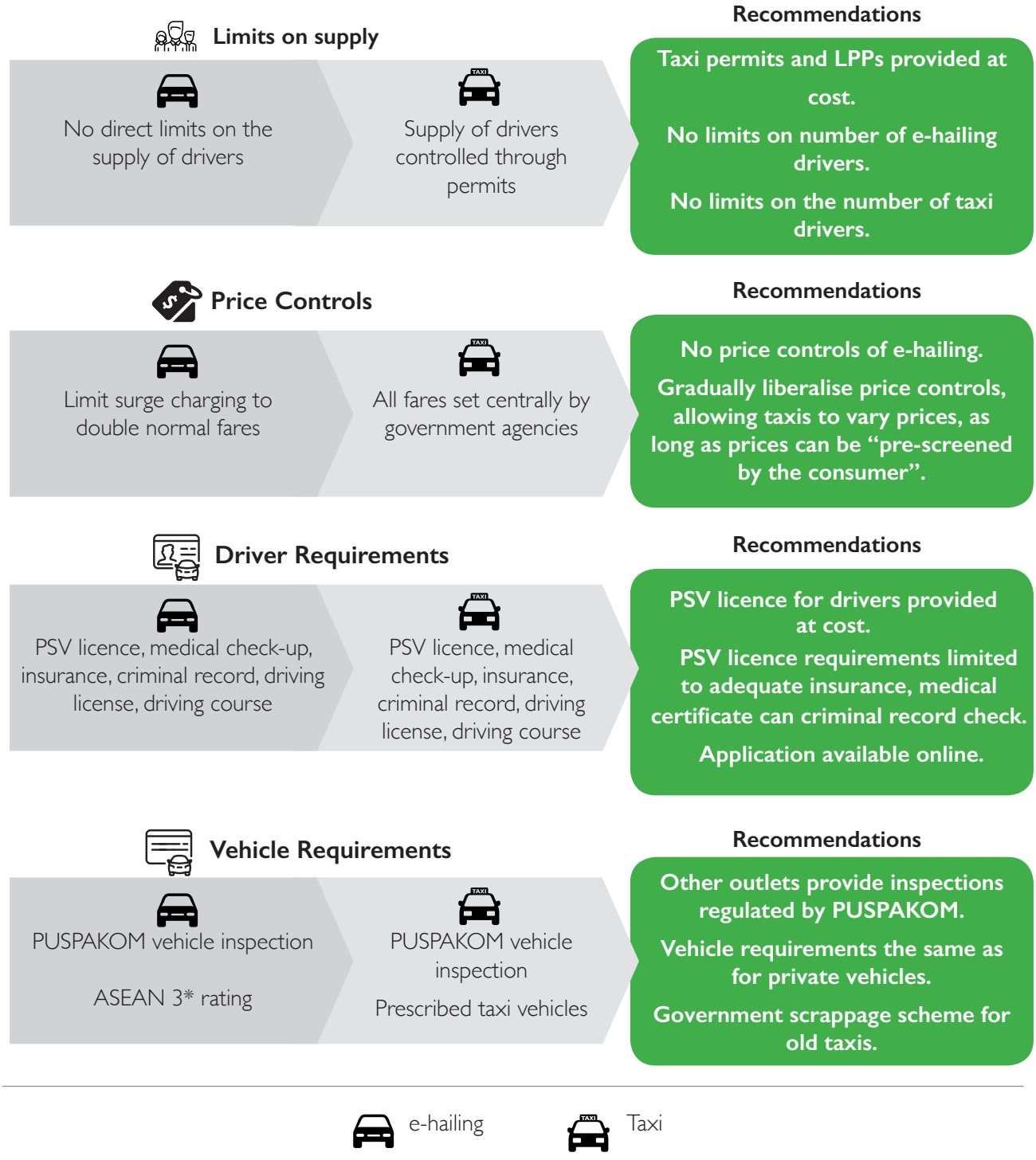
In the case of e-hailing industry, the government should revise the proposed regulations to:

- Reduce the barriers to entry for new e-hailing operators by limiting the cost of the new Business Mediation License (LPP);
- Reduce the barriers to entry for new drivers, by reducing the requirements for obtaining a PSV, in particular the requirement for an additional driving course, and ensure the application process can be completed online;
- Simplify the process of vehicle inspections by permitting other outlets to undertake inspections, regulated by PUSPAKOM; and
- Remove the cap on surge pricing and the limits of commissions for operators;

In the case of the traditional taxi industry, the government should revise the existing regulations to:

- Bring PSV licence requirements in line with the proposed requirements for e-hailing drivers above;
- Liberalise the supply of permits and reduce the cost of the permit in line with proposals for Business Mediation License above;
- Liberalise price controls, allowing taxi companies to vary prices, but place a general requirement that consumers can "pre-screen" prices; and
- Introduce a "scrappage" scheme which allows taxi drivers and companies to trade in old taxis for newer models.

Table. 7 Recommendations for developing regulations



References

Aris, N. (2018, July 9). Now, Taxis Cheaper Than Grab? *Free Malaysia Today.* Retrieved October 18, 2018, from https://www.freemalaysiatoday.com/category/nation/2018/07/09/now-taxis-cheaper-than-grab/

Balachandran, I., & Ibrahim, B. (2017). The Influence of Customer Satisfaction on Ride-Sharing Services in Malaysia. *International Journal of Accounting & Business Management, 5(*2), 184-196. Retrieved October 5, 2018, from http://www.ftms.edu.my/journals/pdf/IJABM/Nov2017/184-196.pdf

Barrett, S. (2003). Regulatory Capture, Property Rights and Taxi Deregulation: A Case Study. *Wiley Blackwell: Economic Affairs, 23*(4), 34-40. Retrieved from https://ideas.repec.org/a/bla/ecaffa/v23y2003i4p34-40.html

Cetin, T., & Deakin, E. (2017, September 14). Regulation of Taxis and the Rise of Ridesharing. *Transport Policy.* Retrieved October 22, 2018, from https://www.researchgate.net/publication/319869140_Regulation_of_taxis_and_the_rise_of_ridesharing

Coffman, R., & Shreiber, C. (1977). The Economic Reasons for Price and Entry Regulation of Taxicabs (Comment and Rejoinder). *Journal of Transport Economics and Policy, 11*(3), 288-304. doi:http://www.jstor.org/stable/20052481

Coyne, C., & Coyne, R. (2015). *Flaws and Ceilings: Price Controls and the Damage They Cause*. Institution of Economic Affairs. Retrieved October 25, 2018, from https://iea.org.uk/wp-content/uploads/2016/07/Coyne-Interactive.pdf

Dhillon , D. (2017, November 19). Having More Ride-hailing Services is Good for Consumers. *New Straits Times.* Retrieved October 10, 2018, from https://www.nst.com.my/opinion/letters/2017/11/304843/having-more-ride-hailing-services-good-consumers

Djankov, S., Porta , R., Lopez-de-Silanes , F., & Shleifer, A. (2002, February 01). The Regulation of Entry. *The Quarterly Journal of Economics, 117*(1), 1-37. doi:https://doi.org/10.1162/003355302753399436

Farren, M., Koopman, C., & Mitchell, M. (2016, July). Rethinking Taxi Regulations: The Case for Fundamental Reform. *Mercatus Research.* Retrieved October 23 2018, from https://www.mercatus.org/system/files/Farren_Taxi_FINAL.pdf

Grab. (2017, July 27). *Introducing Our NEW Safety Measures!* Retrieved October 5, 2018, from Grab: https://www.grab.com/my/blog/safetyfeatures/

Hall, J., & Krueger, A. (2016, November). An Analysis of the Labor Market for Uber's Driver-Partners in the United States. *National Bureau of Economic Research*(J01). Retrieved October 8, 2018, from https://www.nber.org/papers/w22843.pdf

Ho, F. (2016, February 18). *Here's How You Can Make An Extra RM3,000 Every Month With Uber!* Retrieved October 8, 2018, from iMoney.my: https://www.imoney.my/articles/heres-can-make-extra-rm3000-every-month-uber

iPrice. (2016). *Battle for the Cheapest Fare in SEA. Who Wins The Ultimate Uber, Grab and Taxi Comparison?* Retrieved October 18, 2018, from iPrice: https://iprice.my/insights/uber-grab-taxis/

Kandasivam, A. (2017, December 1). Ridesharing Has Potential To Solve Traffic Congeestion Woes. *Digital News Asia.* Retrieved October 5, 2018, from https://www.digitalnewsasia.com/digital-economy/ridesharing-has-potential-solve-traffic-congestion-woes

Kannan, H. (2018, August 23). Govt Assures That Taxi Driver's Grouses Would be Addressed. *New Straits Times.* Retrieved October 12, 2018, from https://www.nst.com.my/news/nation/2018/08/404302/govt-assures-taxi-drivers-grouses-would-be-addressed

Kitch, E., Isaacson, M., & Kasper , D. (1971, October). The Regulation of Taxicabs in Chicago. *The Journal of Law and Economics, 14*(2), 285-350. doi:https://doi.org/10.1086/466712

Li, Z., Hong, Y., & Zhang, Z. (2016). Do On-demand Ride-sharing Services Affect Traffic Congestion? Evidence from Uber Entry. Arizona State University. Retrieved October 5, 2018, from http://dx.doi.org/10.2139/ssrn.2838043

Liao, Z. (2001). Taxi Dispatching Via Global Positioning Systems. *IEEE Transactions on Engineering Management, 48*(3), 342-347. doi:10.1109/17.946533

Lim, A. (2017, February 14). Passengers Happier with Uber, Grab Than Cabs. *The Straits Times.* Retrieved October 22, 2018, from https://www.straitstimes.com/singapore/transport/passengers-happier-with-uber-grab-than-cabs

Moore, A., & Balaker, T. (2006, January). Do Economists Reach a Conclusion of Taxi Derregulation? *Econ Journal Watch, 3(*1), 109-132. Retrieved from https://econjwatch.org/articles/do-economists-reach-a-conclusion-on-taxi-deregulation

Muhamading , M. (2017, December 11). Income of Taxi Drivers Increase After Registering With E-hailing Service Providers. *New Straits Times.* Retrieved October 11, 2018, from https://www.nst.com.my/news/nation/2017/12/313345/income-taxi-drivers-increase-after-registering-e-hailing-service

Ooi, C. (2016, August 12). *Uber vs Grab vs Taxis: Which is Cheaper?* Retrieved October 18, 2018, from CompareHero: https://www.comparehero.my/blog/uber-grab-taxis-cheap-fares

Premananthini , C. (2016, April 26). A Staggering 80 Percent of the Public Prefer Using Uber, GrabCar Than Cabs, Says SPAD. *New Straits Times.* Retrieved October 15, 2018, from https://www.nst.com.my/news/2016/04/141740/staggering-80-cent-public-prefer-using-uber-grabcar-cabs-says-spad

Rayle, L., Shaheen, S., Chan, N., Dai, D., & Cervero, R. (2014). App-Based, On-Demand Ride Services: Comparing Taxi and Ridesourcing Trips and User Characteristics in San Francisco. University of California Transportation Center (UCTC). Retrieved October 5 2018, from https://www.its.dot.gov/itspac/dec2014/ridesourcingwhitepaper_nov2014.pdf

Razieman M.Y., Norminsham A. K., & Azimah D. (2015). Impact of Satellite-based Dispatch Systems for Taxi Services in the Urban Areas: A Literature Review. *Global Conference on Economics and Management Science 2015 (GEMS 2015)*. Retrieved October 5, 2018, from https://www.worldconferences.net/proceedings/gems2015/fullpaper/GE%20045%20IMPACT%20OF%20SATELLITE-BASED%20DISPATCH%20SYSTEMS%20FOR%20TAXI%20SERVICES%20IN%20URBAN%20AREAS%20A%20LITERARY%20REVIEW%20-%20RAZIEMAN%20updated.pdf

Shreiber, C. (1981). The Economic Reasons for Price and Entry Regulation of Taxicabs: A Rejoinder. *Journal of Transport Economics and Policy, 15*(1), 81-83. Retrieved October 23, 2018, from http://www.jstor.org/stable/20052601

Silverstein, S. (2014, October 16). These Animated Charts Tell You Everything About Uber Prices In 21 Cities. *Business Insider.* Retrieved Otober 15, 2018, from https://www.businessinsider.com/uber-vs-taxi-pricing-by-city-2014-10?IR=T

Staley , S., & Douglas, B. (2014). Market Concentration and the Supply of Taxicabs in US Cities. Retrieved October 23, 2018, from https://docplayer.net/40681049-Market-concentration-and-the-supply-of-taxicabs-in-us-cities.html

Sukumaran, T. (2015, January 8). SPAD: Refusal to Use Meters Tops List. *The Star Online.* Retrieved October 22, 2018, from https://www.thestar.com.my/news/nation/2015/01/08/most-complaints-related-to-taxis/

Taylor, D. (1989, June). The Economic Effects of the Direct Regulation of the Taxicab Industry on Metropolitan Toronto. Logistics and Transportation Review, 25(2), 169-182. Retrieved from https://www.researchgate.net/publication/282369004_The_Economic_Effects_of_the_Direct_Regulation_of_the_Taxicab_Industry_in_Metropolitan_Toronto

The Star Online. (2018, October 11). Dry Spell for Taxi Drivers in Port Dickson. *The Star Online.* Retrieved October 22, 2018, from https://www.thestar.com.my/metro/metro-news/2018/10/11/dry-spell-for-taxi-drivers-in-port-dickson/

The World Bank. (2015). *Malaysia Economic Monitor, June 2015 - Transforming Urban Transport.* Retrieved October 10, 2018, from The World Bank: http://www.worldbank.org/en/country/malaysia/publication/malaysia-economic-monitor-june-2015

US Department of the Treasury Office of Economic Policy, Council of Economic Advisers, and the US Department of Labor. (2015). *Occupational Licensing: A Framework for Policymakers* . The White House. Retrieved October 25, 2018, from https://obamawhitehouse.archives.gov/sites/default/files/docs/licensing_report_final_nonembargo.pdf

Wallsten, S. (2015). The Competitive Effects of the Sharing Economy: How is Uber Changing Taxis? *Technology Policy Institute.* Retrieved October 12, 2018, from https://www.ftc.gov/system/files/documents/public_comments/2015/06/01912-96334.pdf

IDEAS

INSTITUTE FOR DEMOCRACY AND ECONOMIC AFFAIRS

IDEAS is inspired by the vision of Tunku Abdul Rahman Putra al-Haj, the first Prime Minister of Malaysia. As a cross-partisan think tank, we work across the political spectrum to improve the level of understanding and acceptance of public policies based on the principles of rule of law, limited government, free markets and free individuals. On 2 September 2016, IDEAS was ranked as the 17th think tank to watch globally in a survey of more than 6,800 think tanks in 143 countries by the University of Pennsylvania's 2015 Global Go To Think Tank Index Report.

Please support us by making a donation. You can make a contribution by cheque payable to "IDEAS Policy Research Berhad" or by transfer to our account CIMB 8008852042. We can only survive with your support.

IDEAS Policy Research Berhad
The Lower Penthouse
Wisma Hang Sam, 1, Jalan Hang Lekir 50000 Kuala Lumpur

www.ideas.org.my
Reg №: 1219187-V

Selection of IDEAS' Publications (2017 - 2018)

Policy Ideas

Policy Paper No.56: Economic Benefits of ASEAN Single Aviation Market by Adli Amirullah (November 2018)

Policy Paper No.55: Powering the future: Malaysia's energy policy challenges by Renato Lima de Oliveira (November 2018)

Policy Paper No.54: Countering Illicit Trade: Lessons from Abroad by Ali Salman, Adli Amirullah, Amelia Lim (October 2018)

Policy Paper No.53: Impacts of Investment from China in Malaysia on the Local Economy by Laurence Todd, Meghan Slattery (October 2018)

Policy Paper No.52: Strengthening the ASEAN Single Aviation Market: Implementing the AEC Blueprint 2025 for Air Transport by Dr Jae Woon Lee (September 2018)

Policy Paper No. 51: Affordable Housing and Cyclical Fluctuations: The Malaysian Property Market by Carmelo Ferlito (July 2018)

Policy Paper No. 50: Create or Nurture? Lessons from Cyberjaya: Malaysia's Promised Silicon Valley by Ali Salman (July 2018)

Policy Paper No. 49: Intellectual Property Rights in ASEAN: Developments and Challenges by Marolita Setiati Anwar, and Adi Darmawan (July 2018)

Policy Paper No. 48: Payment Card Reform Framework (PCRF): A Policy Evaluation Study by Dr. Teo Wing Leong (May 2018)

Policy Paper No. 47: Anti-profiteering Regulations: Effects on Consumer Prices & Business Margins by Hafiz Shams (December 2017)

Policy Paper No. 46: Water Provision in Malaysia Privatise or nationalise? by Wan Saiful Wan Jan (November 2017)

Policy Paper No. 45: Government-Linked Companies: Impacts on the Malaysian Economy by Jayant Menon (December 2017)

Policy Paper No. 44: Illicit Trade in Malaysia: Causes & Consequences by Adli Amirullah, Amirah Fazira and Ali Salman (October 2017)

Policy Paper No. 43: Reining in the IGP's Power: Decentralisation as an option by Nicholas Ideas (September 2017)

Policy Ideas No. 42: Will Our Public Universities Have Financial Autonomy? By Wan Saiful Wan Jan (May 2017)

Policy Ideas No. 41: History and Epistemology of Universities by Munif Zarirruddin Fikri Nordin (May 2017)

Policy Ideas No. 40 :The History of University Autonomy in Malaysiam by Dr. Chang-Da Wan, (May 2017)

Policy Ideas No. 39 :Autonomy and Accountability in Higher Education: Lessons from Ghana and Mexico, by Dr. Sean Matthews (May 2017)

IDEAS
INSTITUTE FOR DEMOCRACY AND ECONOMIC AFFAIRS

Institute for Democracy and Economic Affairs (IDEAS)
The Lower Penthouse. Wisma Hang Sam, 1, Jalan Hang Lekir 50000 Kuala Lumpur

Website: ideas.org.my Tel: +603 2070 8881 / 8882 Fax: +603 2070 8883