Digital Platform Inquiry submission as a comment.

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Disclaimer

This document is a non-exhaustive comment in response to the Digital Platform Inquiry conducted by the ACCC. It does not advocate, nor does it provide any solution, for which more work is required. To the best of my knowledge, the content herein is factually accurate and technically correct. The technical apparatus that is used is either common knowledge or cited and referenced; it is therefore presented without burdening proofs.

In this document I limit my comments to my area of expertise, which is the economics of platforms. I purposefully do not comment on questions of editorial integrity, media regulation nor on privacy concerns.

The content of this document are my informed opinion. In writing it I am not acting for any of the interested parties; I am not receiving any compensation, nor implied compensation.

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Sydney, January 2019

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Summary

This short submission comments on a recent report unveiled by the ACCC that is titled "Digital Platform Inquiry". It is technical in nature and focuses on the economic aspect of the report, that it aims to correct. In doing so it first reviews the some essential aspects of the economics of multi-sided markets. It then highlights the extent to which the analysis delivered by the ACCC ignores the subtleties of multi-sided markets, and suggests this is both misleading and dangerous. In particular, it distinguishes between market concentration and the exercise of market power, monopolised market and monopolies, and clarifies the notion of cross-subsidies.

This note also discusses the (economic) recommendations made by the ACCC. In spite of the ACCC finding that Google and Facebook hold market power, it makes no recommendation to deal with that market power. The recommendations are excessively broad and far reaching, impractical in their definition and application and seem to ignore the perils of unintended consequences.

In conclusion, more work is required to develop the anti-trust tools necessary to confront market power in multi-sided markets. It is work worth undertaking.

1 General comments

An inquiry into a new sector of the economy like digital platforms is a laudable exercise at face value. Rather than be surprised by unforeseen developments, such as, for example, those that followed the deregulation of the electricity market, a forward-looking regulator can only be commanded for informing itself as to the economics of the sector, its potential pitfalls, whether market power may be abused and whether regulation may be warranted.

In spite of its ambitious title the report unveiled by the ACCC falls short of achieving these goals. First it focuses not on a sector but on two firms – admittedly important players – in that sector. The analysis that is conducted is thus pertinent to (these) two firms only. The ACCC then suggests legislative amendments that may apply to *any* firm in the economy, but that can only be justified today to control the behavior of these two firms.

Second, the report presents a poor economic analysis of complex markets. The analysis relies on the application of known tools of competition policy and antitrust policy without making the necessary adjustments for the nature of *multi-sided markets*. While the report does mention multi-sided markets and makes a reasonable attempt at describing them, it then makes no use of this description in assessing anti-competitive behavior.

Third, the report makes excessively far reaching recommendations on the basis of this poor analysis. It recommends amending the Merger Act to control the behavior of *two* firms, neither of which is headquartered in Australia.

It suggests definitions that are impossible to apply, such as "potential competitor". It seems to ignore the fact that provisions of the Merger Act are applicable to *all* firms, now and into the future.

Fourth, the report conveys the idea that Google and Facebook willfully distort the information they present their users, while other firms do not. This clearly casts aside the tremendous editorial freedom that news organizations possess. Information is routinely discarded, or emphasized, or distorted at the stroke of an editor's pen, or for commercial interests. A stockbroker selling shares need not disclose to the buyer who the seller is. Information intermediation, and its potential distortion, is pervasive but only Google and Facebook should be subject to regulatory oversight.

The ubiquity of digital platforms in modern life is not reason enough to interfere and regulate them. Milk or furniture are also ubiquitous, yet the ACCC seems far less concerned about anti-competitive behavior in these markets. Concentration and market power may be good reasons to intervene, but digital platforms are certainly not the only firms to operate in highly concentrated market. In Australia, so do banks, the entire electricity industry, or airlines, and yet again the ACCC does not express much concern about these markets. In this report the ACCC failed to articulate why Google and Facebook should be regulated, what this regulation would achieve that markets do not deliver today and what the side effects of such regulation may be.

2 The Economics of multi-sided markets

Multi-sided markets have been formally studied by economists for about twenty years, starting with the seminal works of Rochet and Tirole (2002, 2003) in the context of credit cards and Caillaud and Jullien (2003) in the context of trading platforms. Many other have followed since, and the scope of the application of the models has expanded, most notably to media and digital platforms.

Multi-sided market are so called because they require more than one side to exist and they feature *cross-market externalities*, that is, externalities from one side to the other. For example, sellers value advertising space only if the medium can reach a population of potential customers or patrons. So characteristics on one side (viewers, readers) matter for the willingness to pay on the other side (advertisers). Likewise, fair goers only attend a fair if there are enough attractive exhibitors. A "platform" that intermediates the two sides (for example, advertisers and viewers) internalises these externalities when making its decisions such as pricing or quality. This leads to what appears to be distortions such as below marginal cost pricing, but is perfectly sensible if considering the benefit accruing on the other side. For example, it is worthwhile to Microsoft to sells Windows at a low price, even zero, because it can extract revenues from application developers who need source codes to sell their product to MS Windows users. The more Windows licenses there are in the world, the more valuable is a new application and the more

Microsoft can charge developers. How much to charge on either side is jointly determined using what is called "semi-elasticity", or the elasticity of "quasi-demand", which emerge as a solution to the problem of maximising total profit across the platform – not just on one side or the other.

Clearly these markets differ from more standard commodity markets. When a consumer purchases a new car, there is no other side to the transaction. Even one-sided networks differ: a phone network, or a messenger network, are only valuable if enough consumers participate, but these consumers are all on the same side of the transaction. There is no cross-market to speak of.

Multi-sided markets present some distinctive features. Pricing is typically skewed: one side may feature prices well in excess of marginal cost, while on the other side the price is below marginal cost. In many cases there are multiple equilibria, as in many coordination games, with no good reason to select one over the other. This diminishes the ability to predict their behavior. Multi-sided markets have a tendency to tip, with only a single firm left operating in the market in equilibrium. In fact, the more competitive is the market and the more likely it is to tip. The reason is that attractive rents on one side make the *other* side more competitive, and the slightest advantage becomes dramatically important. Finally it is not clear that competition is always good in multi-sided markets. Concentrating all transactions on one market may in fact increase social welfare so much that it offsets the harm caused by market power.

Because the economics of these markets are different, and somewhat new, the regulatory apparatus is not yet well developed. It requires a more nuanced analysis than the current toolkit allows.

2.1 Market power and other ills in multi-sided markets

Market power is usually associated with markets being oligopolistic, or dominated by a small number of firms and a fringe competition. Market power is actually defined as the ability to charge prices above marginal cost. It can be deleterious because prices in excess of marginal cost reduce the quantities traded below the socially efficient ("first-best") level(s). A convenient measure of market power is the price-cost margin, or mark up

$$\frac{p-c}{p},$$

and when that differs from zero the firm is said to have market power. Indeed the consequence is that p exceeds the first-best price $p^* = c$, so that the quantity $q(p)$ lies below $q(p^*)$. Optimal pricing dictates this mark up be equal to some function of the inverse elasticity of demand. In the case of an unconstrained monopoly for example, one has the well-known Lerner formula

$$\frac{p-c}{p} = \frac{1}{\varepsilon}, \qquad \varepsilon: \text{ elasticity of demand.}$$

Prices are typically observed, demand can be estimated and costs may be discovered, so that market power can be measured in a given market – for example, electricity or gasoline. Furthermore, consumer harm, the definition of which may depend on the exact jurisdiction, may be estimated. The extent of consumer harm is a function of the mark up: the quantity $(p-c)q(p)$ is the transfer of surplus to producers, while the deadweight loss is

$$DWL := \int_{p^*=c}^{p} q(x)dx.$$

The sum of these two quantities caps consumer harm, while of course the social loss is only the deadweight loss.

The ACCC claims that Google holds market power in consumer search. It substantiate that claim with evidence of a large market share (estimated at 94%). Likewise, the ACCC claims that Google holds market power in search advertising, and that claim is substantiated with evidence of a large market share as well (estimated at 96%). But according the standard, generally accepted definition of market power – the mark up $(p-c)/p$ – there can be no market power in consumer search, for the price of using Google's search engine is 0. Likewise the price of using Facebook. The mark up is not even correctly defined. It then follows there cannot be any consumer harm either. The market failure that is the necessary ingredient to justify intervention is not identified. Instead the ACCC confuses concentration (high market share) with market power (high margins).

Correctly measuring market power in multi-sided markets is a more subtle, and difficult, exercise. The reason is that in setting prices on one side of the market, say consumers, the platform takes into account the behavior of agents on the other side – say, advertisers. In the case of search, for example, charging even only a penny for the use of Google's engine may turn away many users, which then reduces the value of ad placement and of keywords. So the economic incentives are for Google, for example, to decrease its price on the side of users in order to increase the value of the products it sells to advertisers, and so increase the price on the advertisers' side. This is the effect of the *cross-market externality* that is pervasive in these markets, and in fact defines them. This was first noted by Rochet and Tirole (2003), who in a very stylised model, rewrite the optimal pricing rule of a (monopoly) platform as

$$p^b + p^s - c = \frac{p^b}{\varepsilon^b} = \frac{p^s}{\varepsilon^s}, \tag{1}$$

where the superscript b is for buyer and s for seller. Defining now $p = p^s + p^b$ and $\varepsilon = \varepsilon^b + \varepsilon^s$, one has again

$$\frac{p - c}{p} = \frac{1}{\varepsilon}, \tag{2}$$

however now defined not on one side or the other, but across a transaction involving both sides. The practical implication is that the unit of analysis cannot be one side, or the other, but both sides jointly. In the case of the model of Rochet and Tirole (2003), the unit of analysis is a transaction

between parties on either side. Whether market power is being exercised should be assessed across the whole transaction, that is, across both sides. Filistrucchi, Geradin, van Damme and Affeldt (2013) make precisely this point and distinguish between multi-sided market with transactions (e.g. an eBay auction or a credit card transaction) and multi-sided market without (direct) transaction – as for example media. They suggest to extend the "SSNIP test" (small significant non-transitory increase in price test) to either one single market (in the case of transactions), or two related markets (if no transaction). The difficulty is to clarify the exact relation between these two related markets. The pitfall of using the one-sided SSNIP test instead is that a small non-transitory increase in price on one side of the market only has consequences on the other side, where the price is no longer set optimally.

The phenomena just described are not unique to digital platforms. They are equally true in media, for example: newspapers or magazines do not charge the full cost to consumers because they can collect advertising revenue; broadcast media cannot charge anything at all to consumers, and so completely rely on advertising to generate revenue. While the report of the ACCC does acknowledge these phenomena, it does not take them to their logical conclusion and instead makes claims that pertain to one side or the other.

In addition the presence of high mark ups on one side is not evidence of market power either! Prices are typically skewed in multi-sided markets, sometimes extremely so, as they depend on the elasticity of demand on each

side. This skewness is well documented, well understood and not new either; media, again, provide an immediate example. High mark ups on one side merely indeed do indicate that surplus is extracted from one side; however that surplus – in the extreme, all of it – is transferred to the other side, as is the case with a search engine. Consumers benefit from a very sophisticated product at no cost, while advertisers may pay a high margin above marginal cost. Across the whole transaction however the total mark up defined by equations (1) and (2) need not be large. Furthermore, this price skewness does not imply that output is restricted, that competition is impeded, nor that the market experiences a failure. It merely suggest one side is very inelastic, while the other is more elastic or very valuable. Instead one should focus on the sum of prices $p = p^s + p^b$, and assess whether that total price is set consistently in excess of marginal cost. (See Wright, 2004).

In fact Wright (2004) identifies a series of fallacies when it comes to multi-sided markets; that is, tools that may be useful in one-sided market become misleading in multi-sided markets. For exposition, these eight falacies are listed below.

1. An efficient price structure should be set to reflect relative costs (user-pays).

   This needs not be true in multi-sided markets. An efficient pricing structure reflects the willingness to pay on either side, which introduces skewed prices. The principle of user-pays is typically not efficient in such a market. For example, there would be no broadcast media at all

if following the user-pays principle.

2. A high price-cost margin indicates market power.

   In multi-sided markets it is not true that competition, even perfect competition, necessarily drives the price charged to each type of user to cost. Indeed we may have $p = p^b + p^s = c$ but $p^s > c > p^b$. So measuring the extent to which market power is exercised cannot rely on one-sided mark ups; it may simply be evidence of different elasticities on either side without any ensuing output restrictions.

3. A price below marginal cost indicates predation.

   This is the so-called Areeda-Turner rule (1975) and the corollary to item 2. However below-cost pricing on one side may be used to generate greater surplus by attracting the users providing the greatest *social* value. Furthermore, such a price structure may be permanently sustained since the same platform charges above marginal cost on the other side. Behringer and Filistrucchi (2014) show the Areeda-Turner rule applied to one side of the market is misleading; they extend it to multi-sided markets. For each side $i = s, b$ of the market, they suggest the rule should not be

$$p^i - c^i < 0, \text{ but } p^i - c^i + \frac{dq^j}{dq^i}\left(p^j - c^j\right) < 0,$$

   where the term $\frac{dq^j}{dq^i}$ captures the network effect from side i to j. This is

a simple weighted average of the margins a platform can extract from both sides.

4. An increase in competition necessarily results in a more efficient structure of prices.

   While competition can be reasonably expected to lower the overall level of prices (the sum p), it can result in a structure of prices that is even more skewed. In addition, there is nothing to say *a priori* that skewed prices are inefficient in these market – quite likely the opposite.

5. An increase in competition necessarily results in a more balanced price structure.

   This need not follow at all, and in general anything is possible. In particular, the harsher competition, the lower the price on the more elastic side, and the higher the price on the other side – see for example, Caillaud and Jullien (2003), Armstrong (2006) or Roger (2016).

   This is an important point in the context of this inquiry. First, zero-cost pricing on one side may simply show the market is very competitive, which again flies in the face of the notion that market power is being exercised. Second, Caillaud and Jullien (2003) and Roger (2016), and possibly others, show that more intense competition in multi-sided markets imply that, loosely speaking, the first-mover advantage is more important. Without even going to the extreme, at some point one side is pre-empted and the market tips. From that point on, this market

appears to be a monopoly. But is not a natural monopoly; rather it is a monopolised market, and that monopolisation is the product of the competitive process.

6. In mature markets (or networks), price structures that do not reflect costs are no longer justified.

   This logic may apply to a one-sided network, such as a phone network for example. In multi-sided markets price skewness arises from different (semi-) elasticities on either side, not from same-side externalities.

7. Where one side of a two-sided market receives services below marginal cost, it must be receiving a cross-subsidy from users on the other side.

   A cross-subsidy arises when the cost of servicing one side exceeds what they pay, or otherwise contribute to the relationship. Claiming that a cross-subsidy arises as soon as one observes one side paying below marginal costs ignores the externality that very side exerts on the other side. It belittles its value. (More on this below.)

8. Regulating prices set by a platform in a two-sided market is competitively neutral.

   It is neither competitively neutral nor necessarily efficient (see points 4 and 5 above).

Rochet and Tirole (2003) reinforce the point that any intervention ought to be carefully considered (Proposition 6). They show that under the special

case of linear demand *i*) a monopoly platform (that is, one operating alone be decree, not in equilibrium) and competing platforms generate the same price structure, and *ii*) prices are Ramsey optimal. (Ramsey pricing consists in maximizing consumer surplus subject to a break-even constraint on firms.) That is to say, competition delivers no benefit in this special case.

Remark 1 *None of these statements are meant to imply that competition never delivers any benefit in multi-sided markets. Rather they are an invitation to caution. While competition usually lower mark ups in standard markets, it needs not to in multi-sided markets. There are no general results one can rely on, which of course renders policy making more difficult.*

2.2 Cross-subsidies and multi-sided markets

In Box 2.1 (page 39), the ACCC attempts to explain that Google and Facebook engage is cross-subsidisation. It takes as evidence that users pay nothing to access the platforms while advertisers, for example, are charged to display ads. First of all, there is nothing *per se* illegal to engage in cross-subsidisation, which is the practice whereby a good or service is sold below cost to a group of customers, while it is sold above marginal cost to another. Then that second-group is said to cross-subsidise the first one. Such practice may only become illegal if it contributes to predatory pricing, but that is not the claim here.

What is described by the ACCC is in fact not cross-subsidisation. First

Google and Facebook do not sell the same product to both sides of the market. Rather, to one side they provide services (e.g. search) and to the other they provide access to the users. Clearly these are different services bound to attract different prices. Second, as briefly mentioned in Section 2.1, claiming that users are subsidised is ignoring the value they bring to the platform. Without users, there is no advertising to sell and there is no platform. These users are paid, in fact all the same price, with the use of the services of the platform.

2.3 Natural monopoly versus monopolised markets

The ACCC relies on current market share figures to support its claim that Google and Facebook hold and exert market power. These figures are appealing: 94% market share or 96% market share are large numbers that may convey the impression that Google is a monopolist. (Figures for Facebook are less compelling, in the order of 50%.) These figures apply only to Australia. For example, Bing (Microsoft's search engine) reportedly holds in excess of 30% of market share in the United States. Thus the simple statement of these market share figures speaks to two preliminary issues. First, there exists real competition to even a large and dominant player such as Google, and the Australian market share figures may be anomalies or temporary phenomena. Second, business like Google and Facebook are few of the truly global businesses; they operate on the internet, which is accessible anywhere in the world. It makes little practical sense to speak of search activity in Australia

only, to the exclusion of the rest of the world.

These market share figures are also not evidence there is no meaningful competition, nor that Google and Facebook are monopolies. As alluded to earlier, multi-sided markets have a tendency to tip, as was first identified by Caillaud and Jullien (2003). That is, as a result of the competitive process there may be a single competitor left standing. Google and Facebook are prime examples. There were multiple search engines in the past (Yahoo, Altavista, Excite, Ask, and others) and Facebook displaced MySpace as a social network. Market concentration is also prevalent in other multi-sided markets such as media or operating systems, yet they do not attract the same attention of the regulator.[1]

That multi-sided markets tip cannot be mistaken for these markets to be (natural or legal) monopolies, with the implication that market participants do not possess the same market power as a (natural or legal) monopolist. First, tipping is the result of the competitive process, as shown in multiple papers (Caillaud and Jullien (2003), Gabszewicz, Garella and Sonnac (2007), Roger (2016)). Second, once it has tipped, the market remains contestable

[1]Whether markets completely tip depends on the specific details of the market. For example, broadcast media markets do not tip as obviously as print media or search engines. Without going into a detailed analysis, there may be at least two reasons for this. First, broadcast may be perceived as *horizontally* differentiated: which breakfast show one listens to is a matter of personal taste; differentiation is known to tame competition. This differs from search engines, where the quality of search is what matters; such markets are *vertically* differentiated and compete on quality. Second, the geographic reach of broadcast media is limited by their transmission capacity and license(s); this naturally limits the market size, and therefore the extent of competition for consumers. There are no such restrictions when it comes to digital platforms; their market is extremely large and so very valuable. That is exactly what enhances the competitive pressure and leads to tipping.

and the remaining player *cannot* act like a monopolist. Doing so would only invite entry. Entry in the search engine market, for example, is not prohibited. It may require a large investment but it is also not a natural monopoly, and Microsoft is making a solid attempt. Thus quoting market share figures as evidence of market power being exercised is very much misleading, and is certainly not evidence of anything.

The ACCC makes mention of "dynamic competition" – the threat of entry by a new competitor able to displace them – and correctly states that the extent to which competition constrains Google and Facebook in their exercise of market power must be evaluated. It then concludes that these platforms are insulated from "dynamic competition". To support this claim, the ACCC asserts there are significant entry barriers, advantage of scope and that an aggressive acquisition strategy is pursued to prevent entry.

Again, this is ignoring what happens outside of Australia. For example in the US, Bing accounts for a third of searches on the consumer side. This constitutes very real competition. In countries like Russia or China, where English is not lingua franca, Google and Facebook are not dominant players. Any of Yandex (Russia) or Baidu (China) could turn its sight to the English-speaking world and start competing with Goole and Facebook.

The ACCC lists barriers to entry such as same-side externalities and cross market externalities, with the implicit understanding that these are not good for competition and thus socially not desirable. In multi-sided market this is a long bow to draw to claim that these "barriers to entry" have

a negative impact. First, these same phenomena gave rise to the dominance of Yahoo and MySpace, both of which now defunct. Second, there is no direct connection between a large market share and the exercise of market power (see Section 2.1). Third, cross-market externalities, for example, enhance the value of the platform for *all* users, not just its owners. Thus, if it were ever possible, compelling that entry barriers like cross-market externalities be removed or decreased, may in fact be socially harmful. The ACCC also cites branding, economies of scale and sunk costs, as entry barriers. These are certainly not special to digital platform; the apply to Qantas, Westpac, Telstra, BMW and many such firms without the ACCC growing particularly concerned about them.

Economies of scope likewise apply to many a business. For example Qantas stands in a privileged position to offer catering and other airport services to foreign airlines because it already operates them for its own planes. Spreading these fixed costs over larger quantities then allows it to better compete domestically against Virgin Airlines.

Finally acquisitions need not be bad outcomes nor anti-competitive, even if they involve the acquisition of a competitor, and especially in the high-tech sector. The reason is that there is no guarantee the acquired business would be a success in its own right, and so may never have been an effective competitor. Instead, the acquiring party may lend its skills to turn the acquisition into a success. Thus pointing at a string of acquisition as evidence of a malignant strategy designed to harm consumers is misleading.

3 Recommendations of the ACCC

The ACCC makes a series of recommendations that follow from its analysis. Here too comments are restricted to my area of expertise. Let us remark first that, after finding Google and Facebook exert market power in a series of markets, it makes no recommendation to address that finding.

As a general statement, the recommendations produced by the ACCC are too far-reaching and impractical. They also require legislative amendments to deal with *two* firms, neither of which is headquartered in Australia. This resembles legislating by exception and is concerning direction for a regulator to advocate.

1. Recommendation 1:

    - What is a *potential* competitor? While the answer to this question is conceptually simple, it is impossible to define in practical terms. It requires crystal ball glazing into the future, it puts no boundary on who the subject may be, and it is unable to handle geographic reality. If Facebook acquires the Japanese site Line, is it required to inform the ACCC? What if it chooses not to? Will the ACCC sue Facebook in the USA, or in Japan? Would this be such a burden that Facebook prefers exiting the puny Australian market?
    - While requesting that data acquisition be reported is clearly targeted at digital platforms in this report, once in legislation such requirement would apply to *all* firms. Banks, insurance compa-

nies, healthcare providers, car manufacturers and many other sectors are now data intensive and work with sensitive information. What exactly are the consequences of this requirement? Who else may be affected, now and into the future, long after this report is forgotten?

2. Recommendation 2: It is not at all clear how these firms can be compelled to give advance notice. Here too the ACCC suggests to draft legislation specifically targeted at two firms rather than an industry.

3. Recommendation 4: it is not clear that any amendment, nor "tasking" is required. The apparatus of competition law and policy is likely sufficient to deal with standard issues of anti-competitive behavior.

4 Conclusion

To briefly conclude, the ACCC should carry out a more exhaustive and nuanced analysis of digital platforms using state-of-the art tools. Some of these tools are readily available, some should be developed. This is necessary to arrive to the correct conclusions and make pertinent recommendations.

There is a real danger of inappropriately burdening firms with inadequate regulatory requirements, which may either not stand the scrutiny of courts, burden firms that are not targeted by this report, or generate extreme reactions from the targets.

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