Google Android: European "Techlash" or Milestone in Antitrust Enforcement?

The European Commission today announced that it is fining Google €4.34bn for "Us[ing] Android as a vehicle to cement its dominance as a search engine".[1] The news will reverberate across the globe for days with the inevitable comments from various quarters that this is the latest egregious chapter in the "European techlash", and that "Europe does not understand technology and is against successful (American) digital companies". While it is true that Europe lags behind when it comes to homegrown tech players (any list of tech "unicorns" will be dominated by US and Chinese firms), this would miss the mark. The theory of harm is robust in our view; and the EC is at least taking action to address conduct with likely detrimental effects for innovation and consumers.

The deeper question is whether the EC's "cease and desist remedy" (under which the onus will be on Google to address the concerns raised) stands a chance of actually inducing better outcomes, or can be "worked around" with no major threat to the business model – as appears to be the case of Google Shopping. The broader implications for the tech sector and the effectiveness of competition enforcement as a tool in this space are key questions for the assessment of this intervention in the coming months.[2]

What the Android case is *not* about

A few "myths" need to be dispelled before one can sensibly discuss the merits of the EC's analysis.

Myth 1. This is another case about Google abusing its market power in search. No. This case is about Google using its dominance elsewhere (most notably in respect of its Google Play app-store) to *entrench* a position in (mobile) search.

Myth 2. The EC's case assumes away competition between Google and Apple. No. The theory of harm is entirely consistent `with significant *retail* competition between iPhone and premium Android devices such as the Samsung Galaxy series. The question is not whether Android and Apple devices are in competition with each other at the retail level, but whether competition at *this* level of the market is sufficient to undermine Google's upstream market power in its relationship with phone OEMs. It is not.

Myth 3. One cannot have foreclosing effects when competition is "a click away". No. A key question in the case is the extent to which granting a search engine or app default status results in significant changes in its level of usage. The magnitude of switching costs (e.g. how long it takes a sophisticated user to switch the default search engine on their phone) is of course relevant, but the fundamental question is an empirical one: how much does default status influence user behaviour? As we discuss below, the evidence points to material effects.

Myth 4. This is the end of "free" installation and will mean consumers will have to pay more. We will also hear much along the lines that the conduct objected to was simply Google's chosen way of monetising Android (an innovative product distributed free of charge), and the EC's intervention will chill investment and innovation. This is not at all inevitable. And even if Google was to make some changes to the way Android is monetised, it does not follow this is a bad thing: if OEMs now face the true costs and benefits of choosing between operating systems and default search engines, it seems likely the outcome will be more competition, not less. Foreclosure of rival search engines is not a price worth paying to deliver innovation elsewhere – or at least we should not accept this without significant evidence.

Is the theory of harm conventional?

The central concern in the Android case is that Google's contracts with smartphone OEM's made access to its Google Play (GP) app-store and associated APIs contingent upon the OEMs pre-installing Google's Search App and making Google Search the default search engine on their devices "at all entry points".[3] Critically, GP was not made available to consumers through any other channel: an OEM who wanted to offer GP to its customers would have to agree to these terms.

The theory of harm is conventional, not exotic. The combination of pre-installation and default status, cemented with multiple "stick and carrot" features (restrictions on

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[1] CRA staff and affiliates in Europe have worked on behalf of Yandex (a search engine) on this matter both before the Russian FAS and DG Comp. ***This note does not represent the views of CRA, nor those of any CRA expert anywhere, but only those of the individual named authors below.***

[2] An MLex article earlier this week discussed potential strategic responses for Google including charging to license Android noting "Phonemakers might react by operating alternative operating systems or developing their own." It also raised the possibility of a backlash if intervention results in a "free" product becoming paid.

[3] The EC also raised concerns about Google making access to GP conditional on OEMs not installing "forked" versions of Android but we do not consider this aspect of the case in this note.

"forking" and payments for exclusivity) limited the scope for rival search engines to gain traction. Search engines exhibit scale effects: in order to "train" a search algorithm one needs a sufficient volume of data, but accessing such data requires one to have a sufficient volume of queries.[4] Absent the provisions, a natural entry/expansion strategy for a search engine would be to pay OEMs for default status in order to get an initial volume of queries which could be used to improve the quality of its product and compete more effectively. Google's practices made such strategies more difficult as any search engine would have needed to compensate the OEM for the loss of GP: something which may be prohibitively costly even for a rival with comparable or even potentially superior search technology to Google.

At the heart of the Android case therefore is a classic tying/leveraging story in the tradition of Microsoft I, with Google using the market power of GP to entrench its position in mobile search and foreclose potential rivals that might emerge. Of course this raises some key questions: is GP really in a position of significant market power? Is default status sufficiently important to foreclose rival search engines? What are Google's anticompetitive incentives and why doesn't "one monopoly profit" apply? Could the behaviour be explained by counterbalancing efficiencies?

For the reasons we sketch below, we think the conditions are in place for Google's conduct to constitute anticompetitive leveraging, but before we get to this, why is mobile search a market we should care about?

Why competition in mobile search matters

Smartphones have led to a profound shift in how consumers interact with the internet and search. Google's mobile ad revenues reportedly now account for about 2/3 of Google's total advertising revenues and are projected to reach more than $60bn in 2018.[5]

As well as being hugely lucrative in search, foreclosure of competition in (mobile) search could have implications for other markets. Google has also been accused of using its position in search to foreclose rival vertical search engines[6] and its ability to engage in such conduct would likely be amplified by conduct that entrenched its position in search. This, in turn, could have implications for innovation going forward with investors unwilling to invest in business models that are "in the shadow" of a dominant search player.

So we should worry about conduct that risks foreclosing competition in mobile search. Is the Commission right to reach the conclusion that this is what was happening?

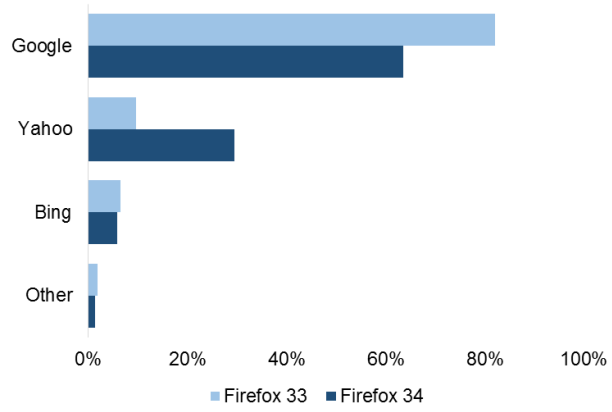
Why the Commission's case stacks up

1. Default status matters. A critical link in the chain of reasoning underpinning the theory of harm is that default status reduces the propensity of users to use rival search engines to Google. While it might be tempting to dismiss concerns on the basis that competition is "a click away" and that default status can be changed easily, this is essentially an empirical question and the evidence we have seen shows that default status is a powerful tool to influence user behaviour.

First, it is hard to reconcile the "one click away" narrative with reports that Google has paid Apple $1bn for default status on the iPhone in 2014 and upwards of $3bn in 2017: if default status is irrelevant and consumers will naturally gravitate to their preferred search engine one would not expect such payments to be in Google's interest.[7]

Second, actual data on consumer behaviour shows a tendency towards "default bias". One example from the public domain is plotted below: Yahoo paid Mozilla for default status in Firefox 34 and saw an approximately 20 percentage point increase in its share relative to users of the previous version of the browser.

Impact of default status in Firefox



Source: Searchengineland.com based on Statcounter.com 7 January 2015,.

2. GP is critical for Android OEMs. The next key link is that GP is sufficiently important to OEMs that the tying strategy could plausibly foreclose rival search engines.

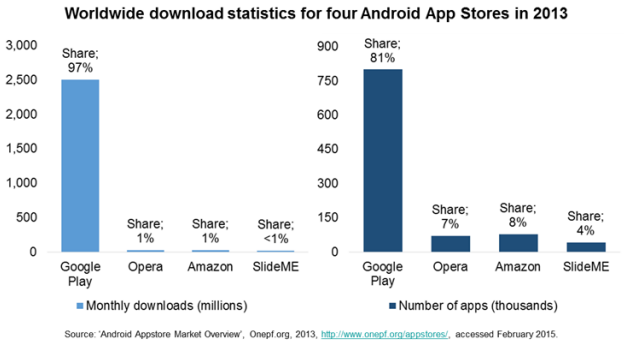
The available data again seems to us consistent with this proposition. The figure below (based on public information during the period of the abuse) shows that GP accounts for the vast majority of app downloads on the Android platform as well as a large share of available apps.

[4] See McAfee, P. 2015. "Measuring Scale Economies in Search"

[5] https://www.recode.net/2017/7/24/16020330/google-digital-mobile-ad-revenue-world-leader-facebook-growth Note this figure likely includes ads sales on Google sites such as YouTube.

[6] Most obviously in the Google Shopping decision (Case AT.39740).

[7] https://www.cnbc.com/2017/08/14/google-paying-apple-3-billion-to-remain-default-search--bernstein.html



The status of GP as by far the most prominent app-store on the Android platform would make it more costly for an OEM to forego installing GP and hence would act to make the tie more effective at preventing rival search engines from bidding for default status.

3. Android is a key distribution channel for mobile search engines. Google's conduct would not raise a foreclosure risk if rival search engines had a wide range of alternative distribution channels besides Android. However, this is not the case: as well as the fact that Android accounts for upwards of 70% of mobile devices[8], the remainder primarily run on iOS where, as above, Google Search is also set as the default. This high level of "coverage" for Google's arrangements is a further reason to worry about foreclosing effects.

4. This is a theory of harm with a strong economic pedigree. Any tying/bundling narrative needs to contend with the "one monopoly profit theorem" (OMPT): why would Google choose to monetise GP by "colonising" other markets rather than simply charging a higher (positive) price for OEMs wanting to install it?

Here too, we think that the Android theory of harm hangs together. First, Google's conduct is consistent with existing models of "dynamic leveraging" in which a tie can increase barriers to entry and preserve an existing monopoly.[9]

Second, research conducted specifically with the Android case in mind has shown how the presence of "zero price constraints" can act to "break" the OMPT. The intuition is that, because search is a two-sided market where revenue is generated on the advertising side, a monopoly search engine would ideally want to pay users to use its service. In the absence of doing so being feasible, a monopoly search engine may not be able to fully monetise its monopoly in search and this gives it an incentive to use market power elsewhere (e.g. in its app-store) to promote its search engine even to the detriment of more efficient rivals.[10]

5. And this is not a case with obvious countervailing efficiencies… While some pro-competitive rationales for the tying arrangement between Google Search and GP have been put forward, none of them seem compelling:

- **Arguments around avoiding "fragmentation" and meeting consumer expectations.** One suggested rationale is that consumers desire "out of the box" functionality and that it is therefore desirable to include a range of Google apps (including search) on all Android devices in order to meet consumer expectations.[11] The concern with this narrative is that they do not explain why OEMs' incentives are not aligned with Google's and why they would choose not to install desirable apps absent contractual requirements to do so.
- **Arguments around supporting investment.** An alternative line of defence is that Google's tying strategy is simply its way of monetising Android/GP and that, absent such a monetisation opportunity, these products would not have been developed in the first place (or would have been developed less quickly). Such a defence takes as its starting point that the tie did indeed foreclose rival search engines but that this foreclosure was optimal because it allowed Google to make investments elsewhere. Setting aside the question of whether such a defence is permissible as a matter of law[12], the premise behind it is not obvious from an economic perspective. For example, one could tell an opposite story that Google's tie had a further distortionary effect on the market for mobile OS because firms without a parallel search business to promote were unable to match Google's willingness to set zero prices and receive payment "in kind" via default status. As a result, an efficiency defence along these lines would require a detailed analysis of the elasticity of Google's investment decisions in Android with respect to its expected revenues, an assessment of the feasibility of alternative revenue streams or monetisation strategies (e.g. higher charges to OEMs or app developers or indirect monetisation via the data generated by the Android platform). To our knowledge, no such data was provided.

8 https://www.statista.com/statistics/266136/global-market-share-held-by-smartphone-operating-systems/

9 See, for example, Choi JP. Stefanadis, C. 2001. "Tying, Investment, and the Dynamic Leverage Theory", Rand Journal of Economics and Carlton D. Waldman M. 2002. "The Strategic Use of Tying to Preserve and Create Market Power in Evolving Industries" Rand Journal of Economics.

10 See, Choi, JP. 2018. "A leverage theory of tying in two-sided markets" and Etro, F. Caffarra, C. 2017. "On the economics of the Android case", European Competition Journal. The latter builds on the former and explicitly considers the role of OEM and payments to OEMs. It shows that Google has an incentive to engage in a tying strategy to better extract consumer surplus in the presence of price constraints or heterogeneity in consumer preferences, and that such a strategy forecloses entry and harms consumers.

11 See, for example, Korber, T. 2014. "Let's talk about Android" and Sidak, JG. 2014. "Do free mobile apps harm consumers?"

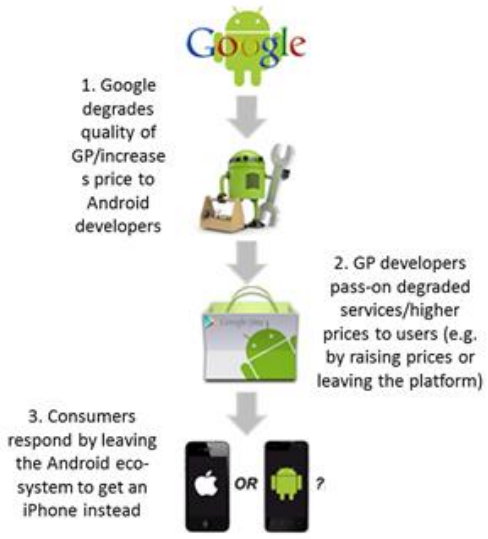
12 The fact Courts have been resistant to incorporating "out of market" efficiencies even in relation to two-sided markets (where the economic case is overwhelming) suggests that such a defence of Google's conduct (where the connection between the markets under consideration is far less clear) would be extremely difficult.

Is the EC ignoring Apple?

The Commission's Shopping case has been widely criticised for "ignoring" competition between Google and Amazon, and it seems likely that this decision will come similarly under fire for ignoring competition between Google and Apple. But would this be right?

We think not. There is no inherent inconsistency between the EC definition of markets for "licensable" app-stores and operating systems and the existence of material retail competition between Apple and Android devices. The fundamental issue is that the decision as to whether to install GP or Android on a given device rests with the OEM *not* the consumer. OEMs, in turn, have no ability to install non-licensable OS's or app-stores (such as Apple's) on their devices. As a result, the question of the appropriate market definition boils down to one of *indirect constraints*.

This is illustrated in the figure below. Suppose Google were to increase the price of GP by a small but significant amount (e.g. by charging more to app developers). In order for this decision to be "defeated" by the presence of Apple (and hence for a broader market to be justified) it would have to be that this price increase was passed onto Android users (e.g. via higher app prices or via fewer app developers working with Android) and that sufficient Android users migrated to other platforms (most obviously Apple) so as to render the original decision unprofitable.



This is a perfectly reasonable question to ask and there are circumstances where such indirect constraints can be material enough to negate an "upstream" firm's market power (for instance, in aftermarkets). Empirically, however, we agree with the EC that the evidence points to GP having significant market power notwithstanding the presence of Apple. This follows from the differentiation between Apple and Android devices at the retail level (e.g. many Android OEMs operate at lower price points), the existence of switching costs for consumers moving between platforms (e.g. because apps are not generally portable), and because of the relatively low level of app licensing fees compared to the overall cost of a smartphone.

Furthermore, even if these indirect constraints need to be accounted for when assessing whether GP is dominant, they are unlikely to play any meaningful role in constraining the particular conduct at issue. This is because, as explained above, Google is also the default search engine on iPhone (which accounts for the vast majority of non-Android devices). Therefore, even if Google's conduct were to have resulted in meaningful volumes of consumers leaving the Android ecosystem, this effect would not undermine Google's ability to foreclose rivals in search.

In sum, the question is not "does Android compete with Apple" but "is retail competition between Android and Apple devices sufficiently intense to prevent GP from being in a position of significant market power over Android OEMs". We think that the EC was right to conclude that the answer to this question was "No".

What about *Intel*? Are rival search engines "as efficient" as Google?

The *Intel* judgment is of course now front of mind whenever one is considering exclusionary conduct cases. Given the emphasis this judgment places on foreclosure of as efficient competitors a natural question is whether this is a standard the EC's Android case could meet.[13]

While it will be interesting to see how the decision navigates this issue, the now-classic economic literature on dynamic leveraging and the newer literature focussed on zero price constraints show how a dominant firm can have the ability and incentive to use a strategy of tying/bundling to foreclose as efficient competitors in adjacent markets.

There is also a question of whether competition policy should be restricted just to the narrowly-defined concept of competitors who are as efficient *as of today* or if it should also consider rivals who are less efficient because of the scale denied to them as a result of the conduct. This seems a particularly salient question in the case of markets, such as search, which exhibit indirect network effects because of the need to train algorithms on sufficient volumes of data.

Can the remedies work?

The record fine is of course the most eye-catching element of the EC's intervention, but the more important question is whether the proposed remedies will be effective. Unlike many abuse cases where the affected rivals are long-dead, it is just possible that competition in mobile search can be resuscitated given the presence of well-capitalised players who may now be able to enter their own distribution arrangements with OEMs. The key question will be whether the EC's remedy (which is non-prescriptive and does not feature solutions like a "choice screen") provides enough of an incentive for more competition to be fired up.

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[13] See CJEU Case C-413/14 P and in particular paragraph 139.