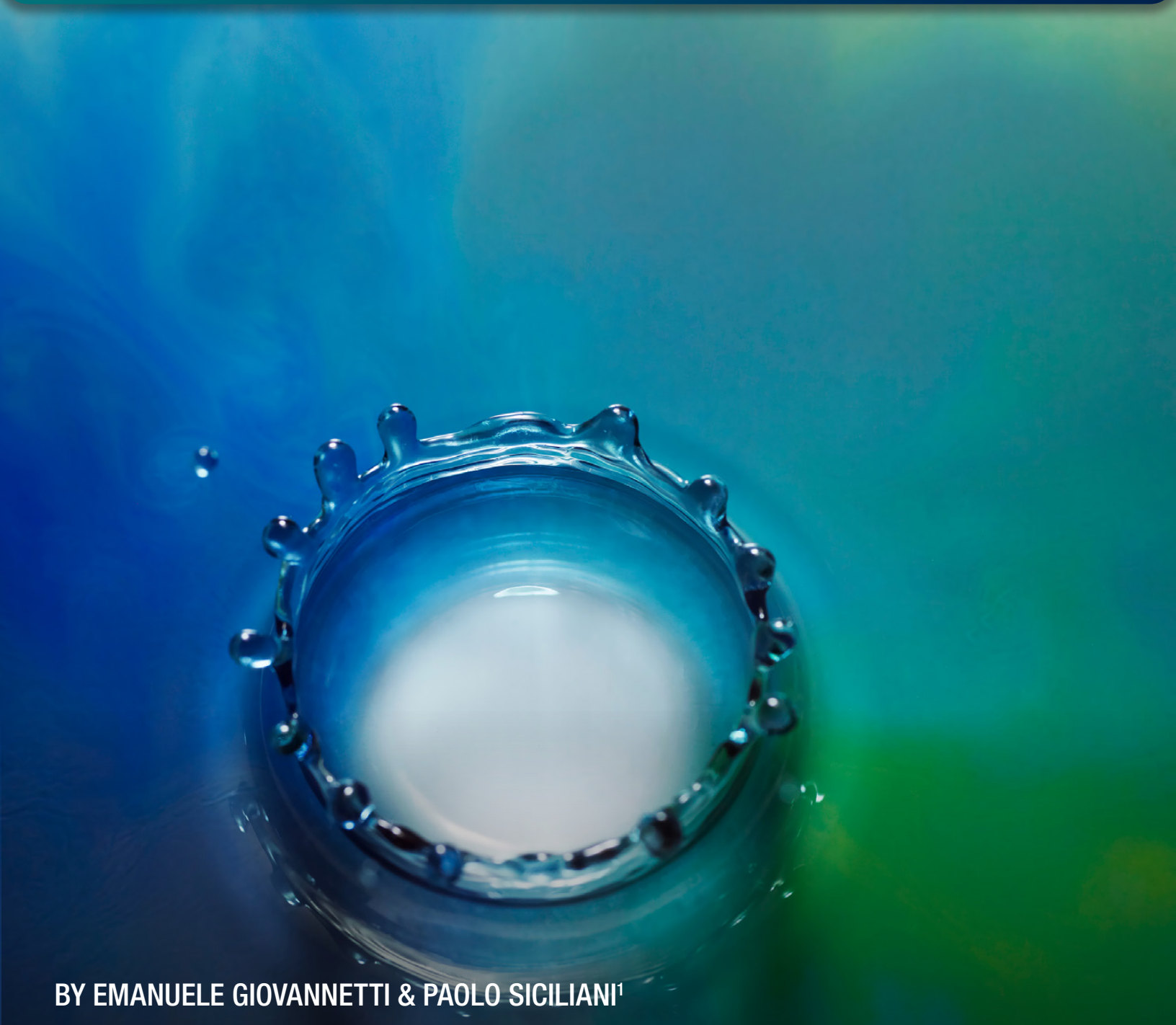
THE IMPACT OF DATA PORTABILITY ON PLATFORM COMPETITION



BY EMANUELE GIOVANNETTI & PAOLO SICILIANI[1]

1 Emanuele Giovannetti, Anglia Ruskin University & Hughes Hall, University of Cambridge; and Paolo Siciliani, Bank of England. The views expressed in this paper are those of the authors, and not necessarily those of the Bank of England or its committees.

I. FROM NUMBER PORTABILITY TO DATA/ IDENTITY PORTABILITY

The remedy of imposing data portability to promote competition against a dominant incumbent by reducing switching costs was first introduced by telecoms regulators. Specifically, under number portability consumers can change their fixed or mobile operator while keeping their old phone number. By losing a personal number a consumer would have to spend time to alert all of her contacts, as well as a number of essential service providers (e.g. banking, insurance and utilities), about the changed contact details. There is no doubt that number portability was an effective tool in increasing switching activity, especially in mobile markets.[2]

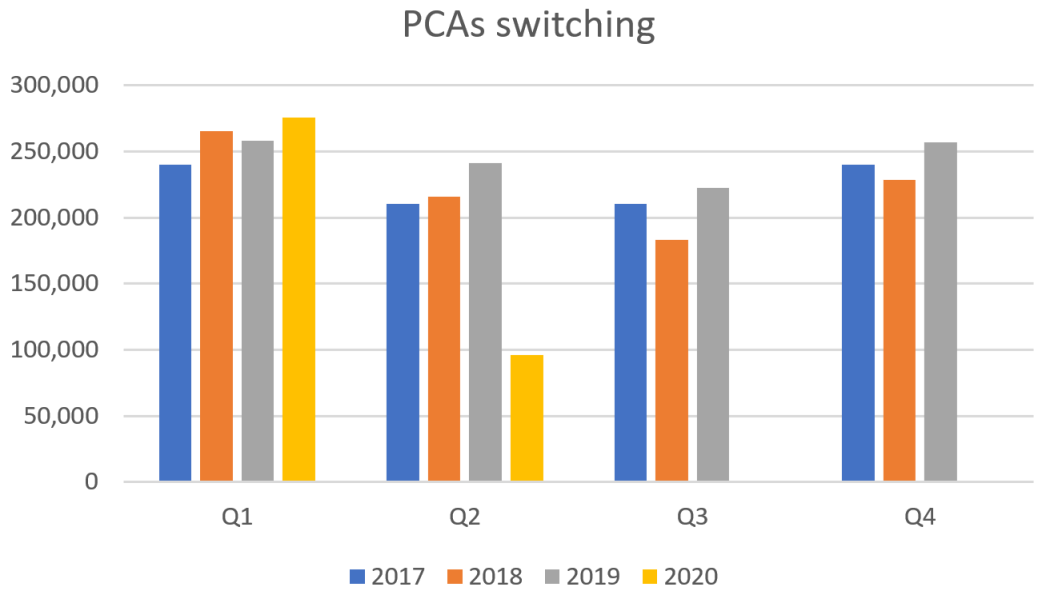
In contrast, the imposition of data portability failed to ignite switching activity when applied to other commoditized service markets, most notably in banking. In the UK, the process of switching personal current account has been entirely automated since 2014 under the industry-run Current Account Switching Service, which allows consumers to transfer seamlessly all of their recurring transaction arrangements, both outgoing (e.g. utility bills and mortgage repayments) and incoming (e.g. monthly salary), within seven days. Nevertheless, the level of switching activity has remained anemic at below 5 percent.[3] In contrast, in the absence of data portability, switching activity has materially increased over the last decade in other commoditized service markets, such as general insurance (e.g. car and home insurance) and retail energy (gas and electricity). Arguably, one of the key difference is the "evergreen nature" of personal current accounts (i.e. with the lack of regular triggers for shopping around), whereas consumers have to periodically renew their insurance policies and energy provider (i.e. once the fixed-rate promotional period expires).

While data portability is typically aimed at reducing switching costs, recently it has also been mandated to facilitate the comparison of complex tariffs based on a specific usage profile, thus lowering search costs. Specifically, Open Banking was launched in the UK in 2018, a remedy imposed by the Competition and Markets Authority to facilitate tariff comparability and thus reverse the persistent low level of switching activity in the market for personal current accounts. Under this data portability remedy, the largest incumbent banks are required to adopt standardized application programming interfaces ("APIs") to allow seamless access to user data (with consent) by third-party apps. The figure below shows that although there was a slight uptick in the level of switching activity up to the first quarter of 2020,[4] it is still too early to tell whether Open Banking will ultimately have a lasting impact.

2 S. Buehler, R. Dewenter & J. Haucap (2006), "Mobile number portability in Europe," Telecommunications Policy, 30, 385-399.

3 See CMA, Retail Banking Market Investigation – Final Report, August 2016, Chapter 6, available at https://assets.publishing.service.gov.uk/mwg-internal/de5fs23hu73ds/progress?id=UAGn5g0D6ECgy5mzUrSc08vdMQP8TAdsPM2_tdakhL0,&dl.

4 The drastic fall in Q2-2020 is most certainly due to lockdown restrictions.



Source: Current Account Switching Service

The holistic approach to data portability showcased with Open Banking is seen as a template for the kind of ground-breaking regulatory intervention called for to rain back the super-dominance of a few essential digital platforms run by Big Tech.[5] These cases differ from the ones highlighted above in that the incumbency advantage is often further strengthened by the presence of network effects,[6] both within the same category of users (i.e. direct network effects – e.g. connecting with social peers) and across separate ones (i.e. indirect network effects under multi-sided platform competition – e.g. e-marketplace). Similarly to switching costs, network effects give rise to a first-mover advantage due to the belief that the challenger platform might fail to reach a viable scale.

In these cases, data portability is not only aimed at lowering switching costs, but also at allowing the challenger platform to match the quality of the incumbent's match-making service: that is, the ported data is used to improve the precision of its matching/predictive algorithms. In this sense, switching costs and network effects feed off each other to buttress the incumbency advantage.[7] This can be especially the case where the same platform provides a bundle of personalized services that hinges on the creation of a shared, detailed and multifaceted digital profile of users' identities and individual preferences.

In this respect, drawing the boundaries of data portability can be very contentious, to the extent that attributes of a digital identity are not only the reflection of data inputs provided by the user, but also the results of added inferences obtained from proprietary algorithms. For example, location services, browsing histories, site reviews, dedicated advertising, driving directions, all different tailored services based on algorithmic profiling relying on personal data gathered through tracking methods.[8] Therefore, changing platform could entail a deterioration of the relevance in these personalized services. Arguably, this new type of "lock-in effect" increases the longer the customer relationship with the platform in question has been in place.

5 Coyle, D. (2018), "Practical competition policy implications of digital platforms," Antitrust Law Journal, 82, 835-860. Gans, J. (2018), "Enhancing Competition with Data and Identity Portability," The Hamilton Project, Brookings, available at https://www.brookings.edu/wp-content/uploads/2018/06/ES_THP_20180611_Gans.pdf. Scott Morton, F., P. Bouvier, A. Ezrachi, B. Jullien, R. Katz, G. Kimmelman, A.D. Melamed and J. Morgenstern (2019), Committee for the Study of Digital Platforms - Market Structure and Antitrust Subcommittee, Report, George J. Stigler Center for the Study of the Economy and the State, available at https://www.judiciary.senate.gov/imo/media/doc/market-structure-report%20-15-may-2019.pdf.

6 Competition in telecoms markets was not affected by the presence of network effects thanks to the imposition of interoperability among firms' networks.

7 Nevertheless, Franck and Peitz (2019) pointed out that switching costs may stems from the requirement, under data protection rules, to obtain consent from "friends" to transfer (i.e. under data portability) the related data from one platform to another. Franck, J.-U. and M. Peitz (2019), *Market Definition and Market Power in the Platform Economy*, Report, Centre on Regulation in Europe, available at https://www.cerre.eu/sites/cerre/files/2019_cerre_market_definition_market_power_platform_economy.pdf.

8 In addition, trackers are not only ubiquitous, but also largely run by a few Big Tech firms (OECD, 2020). OECD (2020), "Consumer Data Rights and Competition - Background note," available at https://one.oecd.org/document/DAF/COMP(2020)1/en/pdf.

II. THE IMPORTANCE OF DIFFERING LEVELS OF SWITCHING COSTS

This multi-contact feature of dominant platforms can be a source of heterogeneity in switching costs, to the extent that users differ in the range of services that they rely on, and the challenger platform only competes on a subset of those.[9] This is the typical disruptive innovation scenario whereby the new entrant does not initially develop a fully-fledged offer, but instead focuses on a narrow scope with the strategy to broaden it as the customer base grows. Different degrees of "lock-in effects" can also be the result of demographic and behavioral factors. For example, young cohorts may be less invested into the incumbent platform and therefore face lower switching costs. The presence of inertia due to a default or status quo bias, may be particularly relevant in the context of switching to a new platform, given the risk of failed "take-off."

Different levels of switching costs across a group of users in not only relevant for the consumer/end-user side of multi-sided platforms, but often also at work on other sides. For example, in e-marketplaces and payment systems, SMEs on the, respectively, seller and merchant sides can be affected by the same type of behavioral biases outlined above. More subtly, end-users can become sellers themselves, as with the provision of media content over social networks (e.g. online social gaming platforms).

Therefore, in the presence of heterogeneous levels of switching costs, the impact of mandating data portability at the expense of the incumbent platform can be conceptualized as compressing the range of switching costs, thus in principle benefiting high-switching cost users the most, as it should be the case. We have developed a model to assess the incumbency advantage among two-sided platforms whereby agents have heterogeneous switching costs that, critically, also differ in range and average across the two platform's sides.[10] Given the duopolistic setting, where an incumbent platform is facing a new entrant, the assumption that agents on different sides have heterogeneous switching costs can also encompass the impact of different propensities to shop around in the first place (i.e. search costs).

The presence of switching costs that favor the incumbent platform can also be thought of as a source of vertical differentiation - in the sense that, all else equal, users would prefer to stay with the incumbent and not incur the disutility due to switching costs – and users differ in their preference for quality. This interpretation is especially appealing where the source of switching costs interacts with the ability of the platform to precisely match agents on the opposite side. Our specification is also isomorphic to a scenario where users have different degrees of brand loyalty, but solely for the incumbent. However, while the presence of unilateral horizontal and vertical differentiation improves consumer welfare, switching costs are socially wasteful. An alternative interpretation is that users face a switching cost when leaving the incumbent, but not when leaving the entrant (i.e. to return to the incumbent). This is especially plausible when switching costs and cross-group network platforms are intertwined (i.e. the incumbent retains the edge in terms of matching quality). In addition, this interpretation fits the static framework adopted in our model, in that, without benefiting from its own "lock-in effects," the entrant would lack the incentive to adopt the "bargain-then-rip-off" dynamic pricing strategy typically associated with the presence of switching costs.

We study the impact of a reduction in switching costs, thanks to the imposition of data portability, under two adoption regimes: *i)* single-homing, whereby agents are restricted to full-switching, in that they must leave the incumbent platform in order to join the entrant platform; and *ii)* multihoming, whereby agents have the option to partially switch to the entrant platform, while keeping their membership with the incumbent platform.

As a general remark, the extent to which switching costs differ across users operates as a separating/partitioning device, whereby the new entrant targets those agents on both sides with relatively lower switching costs, and can do so by charging higher prices as the distance from the high-cost customers targeted by the incumbent platform (on the same side) grows. This is especially the case on the side with comparatively higher switching costs. Therefore, regulatory intervention aimed especially at helping high switching cost users might unintendedly undermine the entrant's prospect to gain a sustainable foothold in the market. This is because the incumbent naturally responds to the reduction in switching costs by setting lower prices, thus squeezing out the entrant. Indeed, under single homing, the incumbent's market shares on either side grow in response to falls in switching costs on either side.

9 The use of bundling discounts, such as under a monthly subscription fee that gives preferential access to a range of services (e.g. Amazon Prime), could further strengthen this effect.

10 Siciliani, P. & E. Giovannetti (2019), "Platform competition and incumbency advantage under heterogeneous switching cost — exploring the impact of data portability," Bank of England's Staff Working Paper No. 839, available at https://www.bankofengland.co.uk/working-paper/2019/platform-competition-and-incumbency-advantage-under-heterogeneous-switching-cost. An updated version, which includes a section on welfare assessment, is available on request.

More fundamentally, though, this source of demand-side frictions and preference heterogeneity is needed to avert the kind of tipping, "winner-takes-all" outcomes that would doom the prospect of sustainable entry to start with. That is to say, the range in switching costs has to be sufficiently larger in comparison to the importance of network effects for the coexistence between the two rival platforms to be not only feasible,[11] but also viable from the entrant's perspective.

There can be subtler effects. A reduction in switching cost on one side is detrimental to high switching cost users on the opposite side, when they care more about cross-group (indirect) network effects. This can be the case, for example, with a regulatory intervention aimed at protecting high switching cost end-users of an e-marketplace platform (i.e. switching costs tend to be higher on the consumer side), while sellers on the opposite side are comparatively more concerned about the number of buyers shopping online. Under these circumstances, the incumbent platform can capitalize on the resulting increase in the market share on the buyers side (i.e. as the incumbent becomes more aggressive) by charging sellers more (i.e. to extract the improved network benefits).

All in all, both the new entrant's profit and the network size fall in response to a reduction in switching costs. From a consumer surplus perspective, there is an inverted-U relationship between the aggregate surplus of users and the level of same-side switching costs. This entails that intervention aimed at lowering switching costs would certainly be positive in terms of consumer surplus for very high levels of switching costs, although the entrant's market shares on both sides would fall, but not materially. However, at medium level of switching costs, further reductions in the entrant's market shares in response to a reduction in switching costs would also be detrimental in terms of consumer surplus, that is, to the extent that the incumbent is able to retain a larger proportion of customers paying comparatively higher prices. However, from a distributional perspective, users with high switching costs (i.e. those retained by the incumbent) always benefit from a reduction in switching costs.

Arguably, besides the aim of lowering switching costs, the imposition of data portability could be instrumental in making switching a practical option to start with. This would also apply to the option of multihoming (i.e. partial switching). Under multihoming, we find that the incumbent has an incentive to sponsor multihoming on one side only (i.e. by setting a low fee), in order to maintain full coverage on that side, with high switching cost users not switching at all (i.e. partial multihoming). This, in turn, forces the entrant to charge no fee at all on that side. In contrast, on the opposite side the incumbent can set a high price thanks to the fact that users enjoy full cross-group network benefits. The new entrant follows suit (i.e. prices as strategic complements), with the result that no user opts for multihoming, not even those with low switching costs. As a result, both platforms set higher prices on the side with only singlehomers than they would absent multihoming. This outcome is in stark contrast with the classic result under the "competition bottleneck" model where users on the singlehoming side benefit from intense pricing rivalry among platforms; whereas, platform set high membership fees for users on the multihoming side to access singlehoming members.

In addition, we show that the incumbent platform pursues the strategy of sponsoring multihoming on the side with higher switching costs, which entails that prices tend to be higher on the opposite side with lower switching cost. This finding is also in stark contrast with the outcome under the "competition bottleneck" model, where multihoming users (i.e. typically sellers on a marketplace platform) face monopolistic charges to gain access to singlehoming users on the opposite side (i.e. typically buyers facing higher demand-side frictions).

Higher prices on the singlehoming side translates into higher profits for the incumbent than absent multihoming. Therefore, the incumbent should not resist multihoming, even if it is the result of regulatory intervention. By the same token, the incumbent is more accommodative towards the new entrant, in the sense that the degree of preponderance of switching costs (i.e. in comparison to the intensity of cross-group network benefits) required for the sustainable coexistence of the two rival platforms is lower than absent multihoming. Whereas, from a welfare perspective, users, especially those on the singlehoming side, tend to be worse-off than absent multihoming. Therefore, from a policy perspective, facilitating multihoming by imposing data portability can give rise to another trade-off between the prospect of entry and the surplus of user.

11 It is worth pointing out that the preponderance (with respect to the importance of network effects) of some type of demand-side friction and preference heterogeneity is generally a fundamental assumption in models studying platform competition. The most common choice is to assume that users have differing brand preferences that vary between the two rival platforms (i.e. as under the Hotelling framework).

III. CONCLUSION

The incumbency advantage of a dominant platform is, arguably, the most prominent competition issue in the area of competition policy nowadays. A new platform trying to enter a market dominated by an incumbent platform may in fact fail to overcome the competitive disadvantage due to the combined impact of network effects and switching costs. This is particularly so where the matching service is commoditized and demand is largely saturated (i.e. lack of a large enough flow of unaffiliated users).

Hence, the imposition of data portability in order to facilitate switching is advocated as a general template for regulatory intervention to address the dominance of digital platforms run by Big Tech. However, the case for entry depends on the range of heterogeneous switching costs. In particular, the preponderance of this demand-side friction over the intensity of cross-group network benefits is a requirement to avert tipping equilibria whereby the incumbency advantage is buttressed by the presence of favorable beliefs regarding the expected network size.

Therefore, intervention aimed at lowering search and switching costs, especially for those consumers facing comparatively higher costs due to, for example, inertia, might unintendedly make entry more difficult as the incumbent's strategic stance becomes less accommodative. Perhaps counterintuitively, this suggests that this type of intervention should take place only after the entrant has managed to gain a foothold in the market, so that, once switching costs have been reduced below the threshold where tipping tendencies resume, the entrant platform is less likely to be disadvantaged by unfavorable beliefs. Again counterintuitively, we find that the incumbent should welcome multihoming, whereas users tend to be worse-off. These findings raise a conundrum from a regulatory perspective, given that the imposition of data portability is typically motivated by the desire to facilitate multihoming and reduce switching costs, thus giving rise to contrasting effects with respect to the prospects for sustainable entry.

CPI COMPETITION POLICY INTERNATIONAL

CPI Subscriptions

CPI reaches more than 35,000 readers in over 150 countries every day. Our online library houses over 23,000 papers, articles and interviews.

Visit competitionpolicyinternational.com today to see our available plans and join CPI's global community of antitrust experts.