Blockchain and Anti-trust

An overview of the main anti-trust challenges facing blockchain applications.

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Large consortia have begun to form to tackle the upfront development cost of distributed ledger technologies (**DLT**, of which blockchain is one adaptation). Where consortia develop, competition law / anti-trust considerations/enforcement often follows close behind.

In this article we look at the ways in which DLT may fall foul of competition law.

Information exchange

Information exchange is a common feature of competitive markets and can generate efficiencies. However, exchanges can infringe competition law where they serve to eliminate strategic uncertainty between competitors.

A DLT ledger can instantly record a vast amount of transactional information. This information is often available (to a greater or lesser degree) to each member of a blockchain network.

Where competitors are present on the same network this could potentially give unprecedented, almost real-time access to information around their competitors' activities. If this is simply historic information it may not be problematic from a competition law standpoint, but where otherwise confidential information is disseminated between competitors via the ledger, this could be viewed as an unlawful exchange of information in certain circumstances.

Competition law therefore limits the scope of what should and should not be included on a DLT, and this is something which will need to be carefully assessed by participants in a DLT consortium, particularly where the DLT is distributed or made available to competitors.

Given the variety of possible DLTs, best practice will depend on the market context and the features of the DLT in question. In a highly competitive market, a public and highly automated DLT involving many competitors sharing non-strategic information is unlikely to trigger competition law; though specific circumstances may still induce authorities to investigate. Conversely, in an oligopolistic market, a private DLT involving a small number competitor sharing strategic and/or sensitive information is very likely to be prohibited. The space in between these two scenarios is likely to be very

complex and highly contentious.

Standard setting

Standard setting can be pro-competitive, particularly in helping promote lower output and sales costs. Facilitating interoperability is a classic pro-competitive feature of technology standards, and DLT is no different. For example, in the context of an initial coin offering (**ICO**) the ECR#20-standard guarantees the interoperability of the relevant coin on offer within the wider Ethereum network.

However, standard-setting can also give rise to competition issues. One concern arises from the fact that standardisation efforts, by their nature, require communication and cooperation between competitors. If not carefully managed, this can spill over into unlawful information exchange (see above).

Another issue in relation to standard-setting is the risk of the “patent ambush”: where an entity taking part in a standard-setting effort knowingly fails to disclose that it holds essential intellectual property rights in relation to the standard being developed, and then asserts these rights once the standard has been agreed and others are locked into using it. DLT standards are often "open-source", mitigating the potential for such ambushes. However, according to the WIPO, patent applications in relation to DLT have surged across a broad spectrum of industries. Digital commerce advocacy groups are already warning of the rise of DLT patent trolls, and patent ambush cases may manifest themselves in the future.

Other concerns arise from the coordination of consortia involved in the standard-setting process. Where industry bodies have rules or criteria for membership, these may be problematic if not objectively necessary (e.g. to restrict membership to entities that are data protection or cyber security compliant) and consistently applied. This may be relevant to the establishment of privatised or “permissioned” DLTs. Other competition concerns may arise where an industry standard is agreed and adopted, but access to it is then restricted.

Foreclosure risk

The most popular means of validating a DLT transaction is through the "proof of stake" (**POS**) mechanism. POS is "industry-friendly" due to the smaller number of participants involved in maintaining the ledger (nodes) which makes it cheaper and more practical than alternative means of validating transactions.

However, by reducing the number of nodes, POS consensus mechanisms increase the risk of foreclosure.

For example:

- POS mechanisms create barriers to entry, with new joiners needing sponsorship from existing members, or having to front costs to secure a sizeable stake and node.
- The smaller number of nodes entails that some participants will have both the capability (due to the reduced number of nodes) and the incentive to resolve conflicts on the ledger in an unfair or biased way. Additionally, and with some parallels to the net neutrality debate, it would be possible for designated members to prioritise the clearance of transactions of certain consortium members or boycott transactions by particular parties.

Conclusion

It is clear that there are a number of potential competition concerns that could arise as DLT technology develops and is adopted more widely. A key question is whether the existing antitrust "toolkit" is equipped to deal with issues raised, or if further regulation is required. Authorities may be nervous in introducing ex-ante regulation in respect of such a dynamic

field, for fear of stifling innovation. It remains to be seen how proactive lawmakers are in addressing the question, and at what point competition regulators may start considering interventions.

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