

# Bitcoin Security: Should Developers Be Held Liable?

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## Introduction

1. Most of us have experienced the sense of frustration and helplessness when losing a purse or wallet. Imagine your wallet was digital, and contained \$4 billion in assets. Now imagine the device which held your wallet containing \$4 billion in assets was hacked, and your assets disappeared into the ether.
2. That is what Tulip Trading Limited (“Tulip”) experienced when it was hacked, and lost the private keys to its wallet, which as of April 2021 held \$4 billion in Bitcoin.
3. Tulip (the Claimant) sought the assistance of a number of Bitcoin network developers (“BNDs”) to enable it to access and relocate the Bitcoin. It is theoretically possible for BNDs to do this because they are programmers who collectively control and maintain the various Bitcoin networks.
4. However, the Defendants, who generally form part of the Bitcoin community which prioritises decentralisation (and therefore a reluctance to become directly involved in the regulation of individual transactions) refused.

## The Claim

5. Tulip then brought a claim against the BNDs. This claim relies on the allegation that a fiduciary duty exists between Tulip and the BNDs. It is alleged that this fiduciary duty should extend to implementing the necessary software patch to solve Tulip's problem and safeguard Tulip's assets from the thieves.
6. The Defendants deny that this fiduciary relationship exists, or that they have the power or control to carry out the remedy Tulip is seeking.

## **Tulip's Procedural Problem**

7. All of the Defendants are resident out of the jurisdiction. Upon service of the claim, many of the Defendants applied to set aside service and disputed jurisdiction.
8. This matter came before the High Court, which considered three key issues:
  - i. Does the claim have sufficient merits?
  - ii. Is one or more of the gateways under CCPR PD 6B engaged?
  - iii. Is England & Wales the appropriate forum for this dispute?
9. The High Court decided in Tulip's favour on points ii) and iii). However, Tulip failed to overcome the first hurdle and so the High Court granted the applications to set aside service on the basis that no such fiduciary duty between Tulip and the BNDs existed in law and therefore the claim had insufficient merits.
10. Tulip sought to overturn this in the Court of Appeal.

## **The Test**

11. The test applied here is the same for the test for summary judgment under Part 24. Put simply: Is there a serious issue to be tried?
12. Or more accurately for present purposes: is there a real prospect of there being a fiduciary relationship between the BNDs and Tulip.

## **Tulip's Position**

13. Tulip had 6 grounds of appeal. 4 of them were relevant to the issue of whether there is a serious issue to be tried, but the Court of Appeal focused on grounds 2 and 4. Namely:
  - i. The High Court made a number of conclusions in error because they were based on findings impermissibly assumed against Tulip; and
  - ii. The High Court was wrong to hold that Tulip has no real prospect of establishing that the claimed fiduciary duties exist.

14. Both parties agreed that the definitive test for the existence of a fiduciary relationship was properly stated in *Bristol and West Building Society v Mothew* [1998] Ch 1 at 18A-C

“A fiduciary is someone who has undertaken to act for or on behalf of another in a particular matter in circumstances which give rise to a relationship of trust and confidence. The distinguishing obligation of a fiduciary is the obligation of loyalty. The principal is entitled to the single-minded loyalty of his fiduciary. This core liability has several facets. A fiduciary must act in good faith; he must not make a profit out of his trust; he must not place himself in a position where his duty and his interest may conflict; he may not act for his own benefit or the benefit of a third person without the informed consent of his principal. This is not intended to be an exhaustive list, but it is sufficient to indicate the nature of fiduciary obligations. They are the defining characteristics of the fiduciary.”

15. However, Tulip also invited the Court of Appeal to consider that “a person will be a fiduciary in his relationship with another when and insofar as that other is entitled to expect that he will act in that other's interest to the exclusion of his own several interest.” [para 44].

16. In viewing the existence of a fiduciary relationship through this lens, Tulip argued that:

- i. The extent to which the BNDs had control over the Bitcoin network was significant, and by comparison extended beyond the control that a traditional bank had over its customer's funds.
- ii. The way in which BNDs exercise their control is also indicative of them being guardians of the Bitcoin network and its users. Fulfilment of this role comes in the form of taking both positive steps to update the network code and patch issues identified by the Bitcoin community, and negative steps in that they often refuse to act where there is no consensus about what (if any) changes should be made to the network.

## The Court of Appeal's Analysis

17. Having affirmed that the categories in which fiduciary relationships can be identified are not closed, and that they may exceptionally be expanded upon incrementally within the common law, the Court of Appeal drew an insightful comparison between the properties of physical money vs digital money, and between the roles of BNDs vs a traditional bank.

18. The Court of Appeal observed that “*A physical coin has properties which exist outside the minds of people who use it and in that sense is tangible. Bitcoin is similar. It also has properties which exist outside the minds of individuals, but those properties only exist*

*inside computers as a consequence of the Bitcoin software. There is nothing else. And crucially, asserts Tulip, it is the developers who control this software”.*

19. It then went on to observe that *“In a bank the software developers as individuals will be tasked with maintaining the source code for the bank’s accounts and payment systems, but they are subject to ultimate control by the board (and subject to regulation). The bank’s developers have nothing like the control over the customer’s assets which Tulip alleges the Bitcoin developers have over Bitcoin.”* [para 72]
20. With these properties and characteristics in mind, the Court of Appeal then observed that the role of a BND *“involves the exercise of authority by the developers, given to them by their control of access to the source code, and it is a decision-making role, in effect making decisions on behalf of all the participants in the relevant Bitcoin network, including miners and also including the owners of the Bitcoin.”* [para 74]. The decision-making aspect of the role is akin to many established examples of fiduciary duties – for example Trustees within wealth management firms.
21. The Court of Appeal also took the view that it is at least conceivable that BNDs owe a fiduciary duty to Bitcoin owners not to compromise their security, as developers act on behalf of Bitcoin owners to maintain the software, and in so doing, put the interests of Bitcoin owners ahead of their own self-interest. The significance of this conclusion was that it undermined the Defendant’s case, which denies any fiduciary duty of any sort.
22. Then there was the issue of whether the BNDs duty could include not only a negative duty not to exercise their power in their own self-interest, but also a positive duty to introduce code to fix bugs in the code that are drawn to their attention. The Court of Appeal suggested that a concomitant duty to act in that way is realistically arguable. On one view, the owners of Bitcoin rely upon the BNDs to take care of the security and longevity of their property, and have a legitimate expectation that the BNDs will act in good faith to fix bugs in the software.
23. The Court of Appeal also appreciated that if such a fiduciary duty were deemed to exist, there may be issues presented in circumstances where BNDs may be faced with multiple claims in different jurisdictions from rival claimants who obtain competing judgments. Whilst there was a possibility of this problem occurring, the Court of Appeal concluded that this cannot be a reason to deny that there is a serious issue to be tried in what would otherwise be a properly arguable case within the court’s jurisdiction.

24. Accordingly, the Court of Appeal found that there was a serious issue to be tried, and granted service of the claim on the Defendants who were resident out of the jurisdiction.

### **Key Points from the Judgment:**

25. It is possible that developers of Bitcoin software owe a fiduciary duty to Bitcoin owners not to compromise their security.

26. This duty could arise from the Bitcoin owners' legitimate expectation and the developers' role in maintaining the Bitcoin software, which puts the interests of all owners ahead of their own self-interest.

27. If a fiduciary duty exists, it may include both negative and positive duties to act in good faith and fix bugs in the software, as well as the exercise of other controls.

28. Even if a change in the software is only for the benefit of one owner, it does not preclude it from being in accordance with the relevant fiduciary duty.

### **Takeaways**

29. Before jumping to any conclusions, it's important to recognise that this appeal was on the question of whether there was a real issue to be tried. That issue has not been resolved.

30. The Court of Appeal's decision recognises the possibility that developers of the Bitcoin network may owe a fiduciary duty to Bitcoin owners, which includes an obligation not to compromise their security, and to act in good faith to fix bugs in the software.

31. It is interesting to consider what this decision may mean for the existence of fiduciary relationships within other cryptocurrency ecosystems, which are often controlled by a small, centralised group of developers who do far more than patch code, but also have the power to create or burn tokens – often without the need for community-wide consensus. What is the nature and extent of the duty they may owe to their users?

32. From a commercial perspective, this ruling highlights the importance of ensuring that the developers who maintain the software for a decentralised system are trustworthy and have the interests of the users in mind. It also highlights the need for cryptocurrency owners to understand the potential risks associated with both centralised and decentralised systems, and the actions (or inactions) of the developers who maintain them.

33. From a legal perspective, depending on what transpires at trial, the ruling potentially opens the possibility for Bitcoin owners to pursue claims against developers if they fail to act in the owners' best interests. This could have a significant impact on the liability of developers and could influence the way in which decentralised systems are developed, maintained and regulated in future.

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