BLOCKCHAIN VERSUS THE LAW

Fiduciary obligations and blockchain in Malta

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ABSTRACT

- *This article addresses the simple question as to whether fiduciary obligations arise in the context of the development, deployment and operation of a blockchain platform and, if they do, how. The author reviews provisions in the Maltese* Civil Code *of fiduciary obligations and also references some important international legal analysis on the subject for further in-depth review.*

- *Blockchain is a general subject, relevant in all fields. In the present, this may seem like a bold statement, but in the future, this will be more evident as the technology develops. It will be the same story as that of the internet: odd at the beginning, but taken for granted within a span of a few years. Blockchain will have an even greater impact.*

- *As the subject of fiduciary obligations will be relevant to any form the new technologies may take, this article has been written in an effort not to get caught in the minute details, but to consider the general design and direction of things. Admittedly, change a fact or a feature and the legal interpretation, especially that based on precedents in common-law systems, will change. However, one of the elements we need to develop now, in this highly volatile and fast-changing scenario, is flexibility in legal thinking and conceptual approaches that can cater for, and even survive, these circumstances.*

*U*bi societas, ibi lex. Blockchain is already having a major impact on law, and many are struggling to understand how law will be applied to this innovative technology slowly entering our society, both to players within open-source territories and to actions and transactions taking place on the blockchain. Wherever law and society exist, we find concepts of property, rules on ownership, rights and obligations, and liability. With open-source technologies, decentralised governance and autonomous operations, we have potentially huge issues with existing legal concepts; although it is difficult to imagine legal systems that have developed over thousands of years having problems with anything. Surely lawyers will find principles and rules to solve anything thrown at them, especially when they are innovative and creative? Or maybe we lose the *societas* in the new-tech world of driverless cars and autonomous organisations, which implies we lose the need for the *lex*. Some people in the blockchain world, particularly those using bitcoin, seem to think they are not governed by any law except code.

In studying the earliest stages of the development of legal systems, we find seminal concepts emerging in both Roman law and English and Welsh[1] common law at a time when the law was not written, ownership and possession were indistinguishable, and judicial systems and remedies were extremely limited. Both of these legal systems sought refuge in concepts of equity and justice, which could be dispensed under the discretionary powers of the

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1 For the purposes of this article, all references to the law of England and Wales will be shortened to 'English law'

'Who should be treated as a fiduciary, as a contract party or as a tortious actor, and who should not be so treated? This is emerging as a key discussion'

emperor, king or rulers (later delegated to praetors or chancellors). The key concepts used to fill in the gaps, due to the paucity of the remedies under the law at the time, were *fiducia* in Roman law and trusts in English law.[2] Today, these are commonly referred to under the general heading of fiduciary obligations, obligations that can emerge from many sources.

I have no doubt that fiduciary obligations will continue to play the same role as they did hundreds of years ago in developing solutions for the vacuum created by innovative technology, a term now given a specific meaning under Maltese law as a result of the enactment of the *Innovative Technology Arrangements and Services Act, 2018* in June 2018.[3] 'Innovative technology arrangements' (ITAs) is a term coined to refer to new software artefacts and architectures, known as distributed ledger technology (DLT), including blockchain and smart contracts. When this term is used in this article, it refers to blockchain platforms in all their variations, and even alternatives to blockchains that use DLT.

BLOCKCHAIN

In an exercise that seeks to establish whether any persons involved in blockchain design, development, deployment or operation are fiduciaries, one must necessarily establish the fact situation and then apply the rules to the facts. This is not a simple task, because the facts are not always easy to establish.

I have been reviewing the subject in legal literature for more than three years now, and while very little is actually written about it generally, there have been some outstanding efforts that

should be noted; each takes a different approach and focuses on different players. The questions are often focused on 'miners' and core developers of the blockchain software, which operates within a decentralised governance model. A brief review would be helpful in establishing useful materials on which to base future analysis of fiduciary obligations in blockchain arrangements and, possibly, future legislative design.

This is also relevant for drafting Maltese legislation on regulating blockchain and, as we now move to the next stage of legislation dealing with private law, the issue of 'who is liable for what and on what basis?' is becoming more central. Or rather, who should be treated as a fiduciary, as a contract party or as a tortious actor, and who should not be so treated? This is emerging as a key discussion.

As has been stated above, there are important differences in the establishment of liability for players or participants when based on contract, as opposed to when based on tort, and even more so when based, solely or in combination with other rules, on fiduciary obligations. The question is very relevant and, while the rules on contracts and torts will not be supplanted, there are clearly challenges to the operability of the traditional rules of contract or tort in the context of ITAs.

Where we have contracts or torts, the law is quite established and predictable and is, to a large extent, harmonised across many legal systems. The problem is that contracts depend on relationships, privity and consent/intent, while torts rely on a defined actor and victim, with requirements relating to a duty of care, foreseeability of damage or detriment, proximity, and cause and effect.

With blockchain, we have difficulties in both areas, so relying on existing laws, with their underlying theories, principles and assumptions, may be problematic. Evidently, liability under

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2 David Johnston, *The Roman Law of Trusts* (Oxford: Clarendon Press, 1988)
3 *Innovative Technology Arrangements and Services Act, 2018*, First Schedule, Cap. 592, Laws of Malta

fiduciary rules is not necessarily dependent on consent or relationships, as often the fact situation provokes the obligations and, as they depend on a factual context that needs a solution, the fiduciary obligation does not seek an actor or a victim per se, but is provoked into existence when the two elements present themselves. As a legal concept, it is in search of a context to which it will provide a remedy and not in search of tests for a remedy to be available.

Whether, when and how fiduciary obligations come to the rescue is the question. Will fiduciary law provide an easy remedy, or will we have to exclude its application in this brave new world?

A NOTE OF THE FACTUAL CONTEXT[4]

We have a story unfolding before us. Since 2008, when the bitcoin whitepaper[5] was issued, we have been able to observe a rollercoaster on various fronts. Concepts have spun out that allow us to highlight parts of the narrative that cause difficulties for the law. I will connect fiduciary obligations to this narrative to demonstrate that fact in this context.

Here, we have a phenomenon where software developers design ITAs and then share them openly and freely with the public. The public is then free to use the materials, develop them further and share them openly. Although there seems to be a retention of some right to intellectual property, these software artefacts are free to use and develop by anyone. The term 'open source' captures this concept well and is imbued with collaboration, sharing, public benefit and so on. This is not promoting the private interest of anyone in particular, and it is impressive how such spectacular developments are being used for the benefit of society. Open-source software is even open to commercialisation and may be disruptive.

In this situation, it may not be at all evident who designs the software that is eventually used. It is almost impossible to look at an end product and establish who did what and what intent was behind a particular addition or deletion, and so on.

> ‘It is almost impossible to look at an end product and establish who did what and what intent was behind a particular addition or deletion, and so on. It may even be impossible to say that a product is an “end product”’

It may even be impossible to say that a product is an 'end product'; it can change even while being used by third parties. Users of this kind of software generally know this and they may assume they have no contracts with the developers, though there could be, in many cases, open-source licences with standard terms or subscription processes with waivers and statements of awareness and understanding that no liability is being assumed or warranties being given. This is what happened when bitcoin was issued and this is what continues to happen when changes to the protocols are made. These software arrangements establish facilities that can be used by anyone with a computer and internet access.

However, on the other side of the table, we have users[6] who use the facilities and store data and assets on the facilities, which can have substantial value. The facilities are not operated by anyone in particular, as the system works on the basis of collaboration among users through a distributed network. There is no board of administrators, as we do not have a legal organisation in an ITA, and governance is decentralised; decisions are made on the basis of decentralised verification and consensus. No one owns the facilities and no one gains from their existence, though there are incentives that result in some users, known as

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4 Although I have read numerous materials, have listened to many talks and speeches, and have engaged in substantial hours of discussion with many persons involved in this new technology, including academics and regulators, I must emphasise I remain a lawyer addressing legal issues and not a technologist. My knowledge remains relatively superficial when it comes to very technical detail. So, this analysis is, again, at a high level, and reference to the materials noted below on minute detail is more reliable in specific contexts.
5 bit.ly/LjkXCv

6 The term 'user' is defined in the *Malta Digital Innovation Authority Act* (Cap. 591, Laws of Malta) as 'any person who uses or otherwise participates in or engages with an ITA of any type whether he is a holder of any direct or indirect ownership or control rights or otherwise and includes but is not restricted to miners, consumers, oracles, persons with governance, compliance, regulatory or other functions and may form part of a class of users with the same rights and powers or otherwise'.

'miners', spending time and money to keep the system going, but they are not owners or operators, at least not conceptually. A user who is a retail consumer is different from a miner who can, in specific cases, be treated as an administrator, employee, contractor or agent, or even a *negotiorum gestor*, or voluntary manager, who may have a right to be paid for their services. The latter is a quasi-contract under Maltese law[7] that can trigger fiduciary obligations.

FIDUCIARY OBLIGATIONS

The Maltese legal system is a mixed system with a strong civil-law backbone supported by many English law-inspired statutes and areas of law, such as private international law or conflict of laws, where English common law applies by default.[8] It is one of the few legal systems in the world that has codified the law on fiduciary obligations; it may be unique in terms of the extent of codification. The section in the Maltese *Civil Code* (the Code) on fiduciary obligations[9] was drafted after a careful review of both Roman law and some European legal systems on *fiducia*, and the English law on trusts and fiduciaries, apart from reviews of other relevant laws in other mixed legal systems like those of Quebec, Louisiana, Mauritius and others. It sought to rationalise the concepts at the basis of a set of rules that would sustain the full assimilation of trusts into the Maltese legal system, given the antagonism shown in some legal quarters to the proposal to introduce what was perceived to be a very English concept into the Maltese laws of property and obligations, which are civil law. The project extended to all domestic areas of law including taxation, notarial practices, succession and so on.[10] The rules on fiduciary obligations were originally introduced by the *Trusts (Amendment) Act, 2004 (Act XIII of 2004)* and have recently been revised by the *Voluntary Organisations (Amendment) Act, 2018 (Act XXXVI of 2018)*.

An important starting point on current fiduciary law is the statement in art.1124A(1) of the Code:

'Fiduciary obligations arise in virtue of law, contract, quasi-contract, unilateral declarations including wills, trusts, assumption of office or behaviour whenever a person (the "fiduciary") –
  (a) owes a duty to protect the interests of another person and it shall be presumed that such an obligation: where a fiduciary acts in or occupies a position of trust in favour of another person; or
  (b) has registered in his name, holds, exercises control or powers of disposition over property for the benefit of other persons, including when he is vested with ownership of such property for such purpose; or
  (c) receives information from another person subject to a duty of confidentiality and such person is aware or ought, in the circumstances, reasonably to have been aware, that the use of such information is intended to be restricted.'

While the situations noted above will undoubtedly cover most of the cases under many legal systems, it was then necessary to add other contexts to reflect the richness that developed after the *Code of Justinian*,[11] and especially after the 1600s in the common-law world through trusts. We find these in the sub-articles that follow.

Article 1124A(3) of the Code deals with behaviour as a source of obligations, similarly to the way tortious actions create delictual obligations:

'Fiduciary obligations arise from behaviour when a person –
  (a) without being entitled, appropriates or makes use of property or information belonging to another, whether for his benefit or otherwise; or
  (b) being a third party, acts, being aware, or where he reasonably ought to be aware from the circumstances, of the breach of fiduciary obligations by a fiduciary, and receives or otherwise acquires property or makes other gains from or through the acts of the fiduciary.'

Art.1124A(3) of the Code seeks to cater to some aspects of what is referred to as a 'constructive

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trust' in English law, and its intent is to give a remedy to a victim of this kind of abuse in the specific contexts outlined. This is not a statement of constructive trust, as that is catered for in Malta's *Trusts and Trustees Act*,[12] which selects one type of constructive trust, rather than the theory in general. On both counts, the idea of adopting the general theory was considered to give rise to too much uncertainty and was, therefore, avoided.

Further clarification on the extent of these provisions and their catchment is found in art.1124A(2) of the Code, which states that 'delegates' of fiduciaries are also fiduciaries when they are aware, or should be aware, that they act for a fiduciary from the context. Art.1124A(5) establishes that the fiduciary in breach must 'return any property together with all other benefits derived by him, whether directly or indirectly, to the person to whom the duty is owed'. Art.1124A(6) further extends the obligation to all 'property into which the original property has been converted or for which it has been substituted' when dealing with the duty to return property in kind (as opposed to damages as compensation).

It must be noted that, as this law applies to all fiduciary relationships based on the same shared elements, there is possible overlap with other existing institutes in the Code. This happens with the contracts of mandate, deposit or lease, the notion of trusts, the principles of unjustified enrichment and so on. Many of these originated

in the period before the codification by Emperor Justinian, when nominate contracts, often referred to as good faith contracts, took the place of the earlier concept of *fiducia*.

Maltese law generally, and as a matter of interpretation, lays down certain principles in art.1124(J) to assist the courts in applying these provisions:

'In the application of the provisions of this Title the following principles shall apply:
  (a) when a fiduciary relationship is governed by particular rules, whether because of the source and type of the obligations or because of any special law, such particular rules shall apply to the context and these provisions shall apply as necessary to support the interpretation of the said rules;[13]
  (b) it shall be presumed that these provisions operate consistently with particular rules applicable to any particular fiduciary relationship or obligation but, in case of inconsistency, the particular rules shall prevail over the provisions of this Title;
  (c) the provisions of this Title shall apply to all fiduciary obligations, which exist at the time of the coming into force of these provisions, or any amendments thereof, even if arising before such date, as well as any fiduciary obligations arising thereafter: Provided that such provisions shall not apply retrospectively where their effect is to deny or restrict any vested right or create any liability where such did not occur under law prior to such provisions coming into force.'

While the law may not necessarily cover every situation, and what it does cover may have some limitations, restrictions and even some ambiguities when compared to the law as it stands in other countries, it is considered to represent a major step forward.

Clearly, the exercise of identifying when fiduciary obligations arise under Maltese law in specific cases is not as complex as in other jurisdictions, where the law is not codified. A very interesting line of

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12 art.33 *Trusts and Trustees Act*, Cap. 331, Laws of Malta

13 This reflects the principle of *lex specialis derogat legi generali* with a tweak: that the general law is not supplanted but remains available to support the special law.

'The software is often developed with pure personal initiative and shared publicly without any expectation of benefit or remuneration; people are free to use it as they wish'

cases in which these provisions have been applied, after detailed analysis, relates to employees being fiduciaries. These turn on the issues of knowledge of confidential information and management positions being held by the defendants.[14]

A recent case involving innovative technology featured an alleged appropriation of information relating to a planned initial coin offering (ICO) by contractors of a plaintiff, who then carried out the ICO themselves. This led to a claim for breach of fiduciary obligations, and the Malta Civil Courts issued a prohibitory injunction to protect the plaintiff/employer.[15]

In the context of fiduciary obligations, the following questions can be raised and simple responses given to demonstrate how serious the difficulties we face are. This is not specific legal analysis, it is to show what sort of issues can arise that need to be carefully analysed in each case under the laws of the country in which they arise:

Q: Is the person who develops the software engaged to do so by anyone?
A: The typical response is 'no', as the software is often developed with pure personal initiative and shared publicly without any expectation of benefit or remuneration; people are free to use it as they wish. If it were a contract relationship, where developers are engaged, that would not usually result in a fiduciary obligation, as each party promotes its own interests and the developers are not engaged to protect the contractors, who can protect their own interests. They are engaged to do their job to the brief and with competence, and they are paid for that. They will provide warranties on what they have done and will be held liable if

there is a breach. The developer does not have a duty to protect the contractors or their customers, who are beyond the circle of the developers' knowledge and awareness of reliance, but only to act in good faith. It is the duty of the contractors to protect their own customers if they are offering the facilities to them.

Q: If a person makes a facility, which can render a 'service', available to the general public to use at will, are they not bound to protect anyone who uses it?
A: Anyone who carries out an act that causes harm to someone else is liable, but the action must fall within the circle of rules relating to liability for negligent behaviours. If developers designed malware and deployed it, there is a clear intent to cause harm and that will make them liable. But if someone designed a ledger to store information and allow transactions that are very limited in scope without any bad intent, it is highly unlikely that a user would have a right to sue the developer if they lost some value or information using the open-source software.

If harm is foreseeable, then the developer would be liable but, in most cases, the losses occur because of remote reasons or abusive third-party intervention, such as hacking or manipulation of the code, which the developers will clearly be able to show is not attributable to them.

Q: What if others amended and enhanced the software over time?
A: This will make it more difficult to prove whose action caused the loss.

Q: What if you cannot establish who designed or operated the software?
A: It must be proved that the defendant's action caused the loss.

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14 *Anthony Caruana & Sons Ltd v Christopher Caruana; Vascas Enterprises Ltd v Adrian Ellul; M.A.I.N. Services Ltd v Albert Galea*
15 *Dr. Paul Micallef Grimaud noe v Snaparazzi Ltd and others*, Warrant 1904/2018LM, First Hall, Civil Court, Malta, 27 December 2018

Q: When one uses a ledger of this type, who 'holds' the assets of the user?
A: The facilities are the ledgers and the related software allowing transactions with credit items. No one operates the facilities, as they are automated. It is probably impossible to suggest there is anyone 'holding' them, as no one acts as a depository or custodian, and the automated software is not owned or operated by anyone.

This is a very important point for fiduciary obligations, as someone who holds property for another person is a fiduciary. Where there is no 'holder', unless there is an intermediary wallet provider or exchange that does so, there is not the factual element needed to treat someone as a fiduciary.

Q: When a decision to verify a transaction takes place, the ledger changes and credits and debits apply. Who decided that? Are they not liable if the software malfunctions and debits more than appropriate?
A: Decisions are automated based on algorithms that test facts and allow transactions to proceed. This verification takes place in a decentralised manner, so no one in particular is making decisions. Sometimes third-party external verifiers come in, called oracles, and do a technical job that they can, of course, be liable for if negligent, but a link between their act and the loss has to be shown before liability arises. Indeed, oracles only provide information: the algorithms or smart contracts then provide the code for the decision to be taken. The oracles' role may be too remote to append liability.

Q: But if decisions are taken by consensus, would the ones who supported the decision be liable?
A: Apart from the difficulty of connecting the actions to people, a community decision is unlikely to be specific enough to create a basis for liability or to connect to a human act. Negligence would be very difficult to prove and there are no contracts among nodes and users, and no duty to protect each other enough to impose a fiduciary obligation. There could be thousands of computers used for one decision and a different configuration of another few thousand for the next decision a few seconds later.

> 'No one operates the facilities, as they are automated. It is probably impossible to suggest there is anyone 'holding' them, as no one acts as a depository or custodian, and the automated software is not owned or operated by anyone'

Q: What happens if things go wrong? Should the developer intervene?
A: Apart from the fact that a developer may have walked away from the project some time ago, there is no centralised body to take action when a problem arises. Some users may notice a problem, take initiative and get consensus to act in a certain way, but that should hardly be a basis for making them liable for acting or not acting, as there is no duty to do so, no contract nor any fiduciary duty. Everyone is a member of the public using an open facility for their own purposes.

Q: What if the law is being breached? Who is liable?
A: Again, those who breach the law are liable for their own actions. No one in the structure is liable for anyone else's actions and that is a precept of most legal systems. This is very serious, as it can impact on the prevention of money laundering, processing of private data and so on.

Q: What if someone steals my crypto assets?
A: Naturally, the person who steals is guilty of a crime and is liable to return the assets, but as assets and users are reflected in cryptographic code numbers, this may be a difficulty for a person whose assets are stolen. If you can find your digital assets in the hands of someone else, then maybe you could argue that such person is a fiduciary if you can show they misappropriated the assets from you, but with fungible digital assets held through exchanges it appears almost impossible to do this.

'No player in this context is to be presumed to be a fiduciary merely on the basis of what they are described as doing. There must be something more in their role, such as possession of property for others'

Q: What if a glitch places my crypto assets in someone else's account/wallet?
A: Fiduciary obligations will emerge and bind the recipient to return what they unjustifiably received; again, producing evidence will be a challenge.

A useful point to consider is whether these decentralised structures are part of, or similar to, the common or public domain, like the sea, the open countryside and so on. This analogy will help one understand how difficult the issues are and how ephemeral the remedies may actually be once a problem arises.

BACK TO THE REAL WORLD
After reading many materials on the factual contexts in blockchain for my analysis based on Maltese law, I have adopted a rather restrictive approach: no one should be presumed to be a fiduciary because that is far too burdensome to assume. One should consider a person to be a fiduciary only when the appropriate facts exist. I started from a position that no player in this context is to be presumed to be a fiduciary merely on the basis of what they are described as doing. There must be something more in their role, such as possession of property for others, reliance on persons who act in the interest of others and are compelled to protect them, failure to disclose information, vulnerability of one party vis-à-vis another and so on. Without additional elements, we may not have the context in which additional duties should be imposed on players for the benefit of others; there is no context of abuse or dishonesty,

and there is no basis for the justice argument to emerge clearly enough to impel a court to go beyond the generally applicable law and give a remedy to a victim based on fiduciary law.

The first article worth referring to is entitled 'In Code(rs) We Trust: Software developers as fiduciaries in public blockchains'.[16] The second article is entitled 'Blockchain Protocol Developers are not Fiduciaries: An analysis of the cryptoeconomics of open source networks and the role of protocol developers in public blockchain network governance'.[17] The third is 'Blockchain Development and Fiduciary Duty'.[18]

These are all excellent articles that are very well researched and often cross-reference other contributions (particularly Walch's, as this was an early contribution that took a challenging stand in favour of treating developers as fiduciaries). They all refer to a particular domestic law and clearly and correctly focus on the more difficult context of public decentralised blockchains, as this is where the greater challenges lie. In private blockchains, the information flow on development and operations is more available and centralised, thus having a clear point of recourse in case of problems. In all cases, establishing the detailed facts as known to the public is evident as the starting point for analysis. They are all a must-read for anyone interested in this subject.

It should also be highlighted that the discussion is mostly with reference to core developers, as these are a defined group of developers and have a far greater role.

I am generally supportive of the approach and conclusions proposed in the third article by Haque et al and would be careful before extending fiduciary obligations to players in this context of ITAs. The reason for this, of course assuming honesty and good faith in players, is that I am not seeing the factual contexts in the activities of developers, users and others in decentralised public blockchain structures, which would make fiduciary obligations emerge. I do see scope for fiduciary obligations in one specific context, described below.

16 Angela Walch, 'In Code(rs) We Trust: Software developers as fiduciaries in public blockchains' (2018), bit.ly/2kHvBLk
17 Rodrigo Seira, 'Blockchain Protocol Developers are not Fiduciaries: An analysis of the cryptoeconomics of open source networks and the role of protocol developers in public blockchain network governance' (2018), bit.ly/2mcRFhh
18 R. Haque, R. Seira, B. Plummer, and N. Rosario, 'Blockchain Development and Fiduciary Duty' (2019), bit.ly/2m61flU

I will, therefore, limit myself to some generic themes of importance and also share some thoughts on how fiduciary obligations could feature in the future design of Maltese law.

GOVERNANCE

Governance is clearly one of the key focus areas, as its function automatically triggers the thought that someone is acting on behalf of someone else, in this case, the collectivity of users. Maltese company law has no qualms, in line with other laws, in imposing fiduciary duties on the directors who govern a company and its assets. Maltese law states expressly that fiduciary obligations emerge from the 'assumption of office'[19] in confirmation of the same rule. The problem with blockchain is that there is no office or its assumption in any traditional sense, and governance is decentralised and automated. So, the question we ask is: is it still governance of a type that creates fiduciary obligations when we cannot identify any person carrying it out?

In an article on crypto-governance,[20] the author starts with the statement, 'Public blockchain protocols face a serious governance crisis', and then proceeds to discuss various angles and issues on the subject. Another contribution on similar lines is written by Phillip Hacker,[21] who discusses some of the same issues and proposes some rules on fiduciary duties in context. These proposed rules pay regard to the economic impacts of imposing liability on players and even suggest capping liability to ensure people will not be discouraged from acting in the context. I was particularly interested in this latter contribution in light of the proposal to the Government of Malta to introduce legislation on a new type of legal organisation designed to provide solutions to the current uncertainty on critically important matters of liability and recourse.

This article considers the idea of a 'blockchain-based organisation',[22] which is something we have been working on for almost two years now.[23] That fiduciary obligations, in context, need to be defined or excluded seems to be a necessary strategy in this context.

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19 art.1124A, Cap. 16, the Code
20 Carla Reyes, '(Un)Corporate Crypto Governance' (2019), bit.ly/2lKlK7M
21 Philipp Hacker, 'Corporate Governance for Complex Cryptocurrencies? A framework for stability and decision making in blockchain-based organisations' (2017), bit.ly/2ETqkG1
22 Above note 21
23 See Max Ganado, 'Maltese Technology Foundations', chapter 11 in *DLT Malta: Thoughts from the Blockchain Island*, ed. P. Young and J. A. Debono (Derivatives Vision, 2019)

MANAGEMENT

Management of assets belonging to others is another theme that emerges in the discussions, as that too is a context where fiduciary obligations clearly arise. There is no doubt about it under Maltese law, as it falls squarely within the terms of art.1124A(1)(b). Under the Code, the contract of lease of services (*locatio operis*) is often a fiduciary contract, as it is a complex arrangement for the protection of another, the holding of property of another and their safeguarding, and can actually extend to the protection of the interests of clients. This is clearly a context that triggers all the fiduciary obligations under the Code; it is more specific than governance, but is one of the good faith contracts on which there is freedom of contract. This results in parties negotiating the application of rules, including the fiduciary ones, to regulate their exposure to liability and their freedom to act in certain ways, not otherwise supported by the principles underlying fiduciary law. Consent to conflicts of interest is a typical waiver, but was this not one of the causes of the financial crises that gave rise to the anti-institutional sentiment often featuring strongly in the blockchain movement?

Some feel that blockchain, with its technology infrastructure, distributed nature, decentralised governance, automation and cryptography, will avoid conflicts of interest so no waivers will be needed as they would not arise at all. Unfortunately, we are seeing cases where players seeking powerful positions have shown that this level of idealism may be unjustified. But is that not an argument for fiduciary duties to be triggered as a result of that specific kind of positioning? By taking control and unilaterally assuming the role of a 'manager for others', would that imply a duty to protect those who depend on you? This takes us back to one of the questions posed above: is anyone managing or governing? We will often be able to pin responsibility on identifiable persons, but it seems clear we are moving in the opposite direction with what is happening here.

WHAT ARE THE FIDUCIARY OBLIGATIONS?

This discussion will remain rather academic if we do not hone in on what fiduciary obligations actually are. Maltese law now has quite a comprehensive list of these obligations. I do not believe that the list is exhaustive, but it is certainly close to being so.

'If there is no relationship between the actor and the victim, if there is no duty of care, if there is no foreseeability, if the cause is too remote from the effect, and so on, we have a problem with applying the normal rules on tortious liability'

The basic point to make is that many of these obligations will apply in most cases, unless excluded. As we have the problem of identifying the platform for contractual relationships in distributed and decentralised autonomous arrangements, contractual exclusions may not really be useful. While it is true that some exclusion of liability agreements may be struck down for illegality due to public policy considerations, we again find that it is impossible to exclude liability effectively if there is no platform for contractual agreements, let alone waivers, among the particular players in an ITA. Of course, when there is such a context, then let contract law prevail. We need to deal with the case where this is weak or inexistent, and the same applies to tort. If there is no relationship between the actor and the victim, if there is no duty of care,[24] if there is no foreseeability, if the cause is too remote from the effect, and so on, we have a problem with applying the normal rules on tortious liability. It is the same with fiduciary obligations; they exist only if the factual context exists for their emergence.

So, what are these fiduciary obligations we are considering for the different players in an ITA?

As set out in art.1124A(4),[25] a fiduciary is bound to:

'(a) exercise the diligence of a *bonus pater familias* in the performance of his fiduciary obligations;

(b) avoid any conflict of interest or any conflict of trust or fiduciary obligations;

(c) not receive undisclosed or unauthorised profit from his position or functions nor permit any other person to do so;

(d) act impartially when the fiduciary duties are owed to more than one person;

(e) keep any property as may be acquired or held as a fiduciary segregated from his personal property and that of other persons towards whom he may have similar obligations;

(f) maintain suitable records in writing of the interest of the person to whom such fiduciary obligations are owed;

(g) render account in relation to the property subject to such fiduciary obligations;

(h) return on demand any property held under fiduciary obligations to the person lawfully entitled thereto;

(i) return any property held under the fiduciary obligations upon the termination of the fiduciary obligations to the person lawfully entitled thereto;

(j) keep confidential the affairs of the person to whom fiduciary duties are owed; and

(k) carry out the designated purpose, where property has been entrusted to him.'

This sub-article is very important in this discussion in appreciating the impact of a person being considered to be a fiduciary subject to fiduciary obligations. One should note that some can be expressly excluded, and some often are, depending on the context. It should also be noted that fiduciary duties can be implicitly waived in certain circumstances, such as:

'(a) the method of engagement of the fiduciary, in particular where the fiduciary is engaged for two or more purposes, functions or offices or where the fiduciary is engaged for a purpose, function or office at the

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24 This may be a common-law concept that may not apply in the same way in civil law, but the issues are similar under both legal systems as torts have specific requirements if they are to create liability.
25 Cap. 16, the Code

same time as when the fiduciary is granted an entitlement;

(b) the scope, purposes and contexts of the fiduciary obligations imposed;

(c) the handing over of property, by delivery, registration in name of another person, assignment or transfer, to or for the benefit of a beneficiary's creditor for purpose of security or other purpose which is distinct from that of the beneficiary; or

(d) the manner of the acceptance or assumption or undertaking of the fiduciary obligations.'

Having said that, the duties are extensive and onerous; therefore, one should be careful before assuming a developer, user or another type of operator is a fiduciary. This has been happening for hundreds of years and, in many countries, there is much judicial precedent. Sectors also develop practices that make it quite evident if a person is a fiduciary or not. The problem here is that blockchain is new and it is bringing about unexpected issues because of its features: the decentralised and autonomous governance, to start with.

When you cast an eye on the list of these duties and then try to place them in the context of the questions posed above, one starts to realise that, as we have no ownership, no holding, no nomineeships or custodians, no mandates, and no contracts in the context of blockchains, we are unlikely to find fiduciaries at play. Automation excludes intermediaries and most fiduciaries are, indeed, intermediaries. That is their nature: unselfish supporters of the property or information belonging to others, and who must act properly at all times, as they are trusted to do so.

A PROPOSAL IN THE MALTESE CONTEXT
REGULATORY LAWS
Under Maltese law, we have developed the following regulatory regime with reference to ITAs. Basically, an ITA can be certified by the Malta Digital Innovation Authority (MDIA) on voluntary application. For an ITA to be certified, it must undergo a systems audit by a registered systems auditor.

On that basis, the core developers will normally have to demonstrate they have observed the duty of care standards envisaged by the MDIA. Hence, a developer who meets these standards should not be exposed to liability. However, if anyone is found to be acting negligently, not in good faith or not honestly, then they will be personally liable for their actions if their actions cause loss or other detriment.

Maltese law also imposes another requirement for an ITA to be certified and that is the engagement of a registered technical administrator. Any ITA needs a human interface to cater for potential 'losses or breaches of law' that may arise from the use and deployment of the protocols and algorithms. Apart from the issue of who is liable for the actions and to whom actions can be attributed, we have a new problem to resolve: how do we stop the loss or breach of law continuing in this automated environment? The technical administrator is also an MDIA-registered service provider and an approved functionary is required for an ITA to be certified and maintain its certification. Maltese law requires that the technical administrator be given a power in the software to intervene and to modify the software.[26]

Technical administrators should not be treated as fiduciaries in the normal course of events; however, if a loss or breach of law is brought to their attention, they are expected to act and, at that point, their duty is to protect users. So they become the users' fiduciary and subject to fiduciary obligations towards them.

LEGAL PERSONALITY PROPOSALS
We then move on to the proposal of a legal personality in a form of legal entity called the 'decentralised and autonomous innovative technology organisation' (DAITO), which is an extension of the commonly used term 'decentralised autonomous organisation' (DAO). A DAO is the most autonomous form of arrangement, independent of human support, whereas DAITO, building on the definition of an ITA which looks at an 'arrangement' not being exclusively technological, recognises that some human support is necessary and expands wider into alternatives to fully decentralised and autonomous arrangements, as the technology is very prone to change as it develops.

In these proposed new legal structures, we find the dominance of the ITA design, which impacts

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26 art.8(4) *Innovative Technology Arrangements and Services Act, 2018*

directly on the form of legal entity. In such structures, for example, there will not be a board of administrators or even administrators per se, as governance is decentralised and automated, but if there is a general administrator, as some functions, such as representation on contracts engaging the required technical administrator, need a human being in a representative capacity or office, then they will undoubtedly be a fiduciary. However, when a lot of governance functions are decentralised and automated, their fiduciary duties will be clearly limited to what remains within his powers of governance and what is not automated.

We are then contemplating another fiduciary role for technical administrators, in the context of a collapse or cataclysmic event affecting the DAITO, to specifically prevent the disappearance or suspension of all the assets and data of users, which will result from the attachment or suspension of the relevant parts of any ITA. Should a DAITO be affected by such a major event leading to its potential termination, liquidation or winding up, then the technical administrator may be expected to play a role in the preservation of the ITA owned by the DAITO. The ITA, in a public decentralised arrangement, is envisaged as having a public domain or commons nature and must be held in a 'non-recourse' segregated cell by the DAITO. Should a cataclysmic event take place, the technical administrator could play a role in migrating the ITA cell to another DAITO, or converting the cell into another DAITO, both of which are already possible under Maltese foundations law.[27]

Naturally, any aspects that breach the law or cause loss through defects in the technology will have to be separated and not carried across in the migration or, if they are, they will need to be blocked until investigated, corrected or rendered fully compliant with the law. Illegal use by a user is not a technology problem, and any user committing a crime will need to answer for it personally. This would mean that before the original DAITO is terminated, the ITA, with all the lawful and effective user assets and data, will be preserved and will continue to operate. This is another fiduciary function to protect users.

CONCLUSION

This article is intended to give an angle of sight into how this new technology is going to change the legal scene and how even traditional fiduciary functions will be impacted. Maltese law will need to deal with this change in scenario if it wants to achieve legal certainty for persons acting within new forms of legal organisations or in relation to ITAs (not necessarily within legal organisations), which are increasingly being shown to have a strong potential for positive social good.

We are all guessing. Some of us are working hard on designing solutions for a new sector, but all are contributing to the same goal: protecting those who need protection, ensuring that persons who are trusted bear suitable responsibility and that proper remedies exist for abuse.[28]

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27 arts.20 (Segregated cells within registered organisations), 20A (Transfer of cells) and 20B (Constitution of a cell into a new organisation), Second Schedule to the Code.

28 Special thanks to Steve Tendon for his insightful comments on this text