

3 March 2022

Director – Crypto Policy Unit, Financial System Division
The Treasury
Langton Crescent
PARKES ACT 2600

By email: crypto@treasury.gov.au

Dear Director

Token Mapping
Comment on Consultation Paper

We write to provide our comments and recommendations on the above Consultation Paper. We do so in our personal capacities.

We are a team of academic social scientists—economists, lawyers, and accountants—researching and contributing to the design of the decentralised digital economy. We also have experience and expertise in the design of regulation and its implications, such as the effect of regulation on innovation and entrepreneurial discovery.

We are all members of the RMIT Blockchain Innovation Hub (RMIT BIH). The RMIT BIH was established in 2017 as the world's first research centre on the social science of blockchain technology. The RMIT BIH brings together academic researchers in the fields of economics, communications, finance, history, law, sociology, and political economy. Since then, this award-winning, world-leading research centre has been at the forefront of bridging academic research with the design of digital economy business models, and the implications that has for institutions, including regulatory frameworks. RMIT BIH members were part of the Australian Government's National Blockchain Roadmap Steering Committee and RMIT BIH members have appeared before the Senate Select Committee on Australia as a Technology and Financial Centre along with other consultation processes.

Our comment, enclosed, aligns with the structure of the List of Consultation Questions contained in the Consultation Paper. Our comment draws on RMIT research and our previous submissions to the Treasury and the Australian Senate. If you have any questions, please contact Aaron Lane by email to aaron.lane@rmit.edu.au.

Yours faithfully

COMMENT ON TREASURY'S TOKEN MAPPING CONSULTATION PAPER

1. The role of the Government in the regulation of the crypto ecosystem.

The immediate role for government is to provide a clear regulatory pathway to promote regulatory certainty and guard against the key risks of centralised crypto asset services.

Australia is transitioning from an industrial economy to a digital economy. Entrepreneurs are developing new digitally-native business models using blockchains, smart contracts, and artificial intelligence. This emerging technology stack presents an unprecedented opportunity to build a modern digital Australian economy — providing consumer and societal benefits including employment opportunities. The role for government is to craft a regulatory framework that embraces and facilitates the digital economy.

A digital economy is not simply an industrial economy on the internet. A digital economy is defined by a deep shift in the architecture of the underlying infrastructure. As seminal research from the RMIT Blockchain Innovation Hub shows, blockchain technology is fundamentally an institutional technology which introduces new possibilities for economic coordination and governance.¹ A truly digital economy, rather than a digital industrial economy, comprises multi-sided platforms, decentralisation, community governance, automated decision making, and privately governed property rights and contracts. This unlocks new possibilities for governing economic exchange.

A digital economy looks and feels different to an industrial economy. The business models that are profitable and robust sit at different layers and levels of the economy. Payments and cross-subsidies run in sometimes opposite and counterintuitive directions. Property rights, including data, push towards the edges and are created and enforced through networks. The workforce, and the infrastructure it is coordinated through, become increasingly global. Decisions and management are often made collectively rather than through the hierarchies of firms or governments. These differences imply a shift in the role of government.

Effectively regulating a digital economy is a fundamentally different task to that of an industrial economy. This is because the digital economy cannot easily be squeezed into existing taxation and regulatory frameworks. As the Treasury's first consultation paper correctly identified, "the principles for regulating crypto assets are not identical to those behind financial product regulation and should not be treated as such."² As such, we consider that the Treasury's first consultation paper was correct in maintaining a clear distinction between centralised crypto asset businesses and decentralised platforms and protocols — and we urge Treasury to maintain this position.

¹ Davidson, S., De Filippi, P. and Potts, J., 2018. Blockchains and the economic institutions of capitalism. *Journal of Institutional Economics*, 14(4), pp.639-658; Berg, C., Davidson, S. and Potts, J., 2019. *Understanding the blockchain economy: An introduction to institutional cryptoeconomics*. Edward Elgar Publishing.

² Treasury. 2021. Crypto asset secondary service providers: Licensing and custody requirements (Consultation Paper). Australian Government, p. 12.

Where possible, particularly where there are significant potential unintended consequences of regulatory action (e.g., in decentralised networks), governments should adopt an approach of permissionless innovation.³ This permissionless innovation approach should be guided by the objective of becoming a crypto-friendly jurisdiction.⁴

2. Potential safeguards for consumers and investors.

There is financial risk inherent in acquiring or investing in any asset. As a general principle, consumers should be free to choose the mix of assets that aligns with their investment preferences and strategy. Regulators should also be mindful that some consumers will acquire crypto assets for purposes other than investment such as transferring funds, facilitating use of a service, acquiring digital artwork, or participating in governance. When considering potential financial losses to consumers and investors that may result from engaging in the crypto ecosystem, this risk should be compared to consumers and investors engaging in the broader economy—where anti-competitive behaviour, breaches of contract, breaches of fiduciary duties, insolvency, negligence, misleading and deceptive conduct, scams, and theft, all frequently occur. Accordingly, while it is appropriate for a future regulatory regime to be targeted at addressing specific, identifiable, and unique risks of the crypto ecosystem, it is not an appropriate policy outcome to minimise financial risk generally.

Crypto asset service providers are a key interface between the blockchain and crypto-economy and the traditional financial sector, providing what the Token Mapping Consultation Paper refers to as ‘intermediated token systems.’ We agree that it is appropriate for a licensing regime for these providers to minimise the operational and custodial risks for retail consumers. In our experience, the Australian crypto industry is also broadly supportive of a licensing regime.

However, a key consumer and investment risk in the crypto ecosystem is the regulatory uncertainty that continues to pervade regulatory policy in Australia while other jurisdictions are making significant progress. This regulatory grey zone is leading to several issues. On the exchange side, these include de-banking, difficulty accessing insurance coverage, and the risk that Australian corporate regulators could follow the lead of their United States counterparts and take a ‘regulation through enforcement’ approach—all of which have a chilling effect on the industry. On the consumer side, there are risks including those involving custody management, cyber security, adequate capital and liquidity, and dispute resolution.

The Token Mapping Consultation Paper notes that the government will release a further consultation paper regarding a licensing and custody framework for crypto asset service providers. It is noted that over 12 months has elapsed since Treasury’s previous licensing and custody proposal was released.⁵ To be entirely clear: if the Australian government fails to adapt to and enable digital business models, these platforms will still be built—they will simply

³ Thierer, A., 2016. *Permissionless innovation: The continuing case for comprehensive technological freedom*. Mercatus Center at George Mason University.

⁴ Novak, M. and Pochesneva, A., 2019. Toward a Crypto-friendly Index for the APEC Region. *Journal of the British Blockchain Association* vol. 2 no. 1, pp.39-45.

⁵ Treasury. 2021. Crypto asset secondary service providers: Licensing and custody requirements (Consultation Paper). Australian Government.

be built in other jurisdictions, or remain in dark parts of the economy, leaving consumers and investors exposed.

Finally, we note that one of the biggest safeguards for consumers and investors is access to professional financial advice and quality education. A key policy challenge is how to enable existing AFS licence holders and representatives to provide direct investment advice on crypto assets. In regard to education, we note that the RMIT Blockchain Innovation Hub has developed a range of short courses, majors in bachelor degree programs, and a dedicated masters degree program in blockchain-enabled business.⁶

3. Scams.

As the Token Mapping Consultation Paper identifies, there is a concerning level of fraudulent activity across the cryptocurrency ecosystem—impacting thousands of Australian victims each year. It is likely that many more incidents are left unreported due to embarrassment or despair that the funds cannot be recovered.

It is important for policymakers and regulators not to overstate the problem of scams. Chainalysis reports global revenue from scams in 2022 at US\$5.9 billion—a 46 percent decline on the previous year.⁷ Further, scams make up 28 percent of the total illicit cryptocurrency transaction volume—which, in turn, constitutes 0.24 percent of all cryptocurrency transactions.⁸

In our experience, Australians tend to be more frequently impacted by “investment scams” or “romance scams” rather than by “rug pulls” or “scam tokens”.⁹ Accordingly, it is an important policy exercise to distinguish between scams using cryptocurrency as payment method (cybercriminals utilising intermediated token systems and where crypto asset service provider licensing, financial advice and education can play a role) as opposed to crypto asset based scams and fraudulent schemes (commonly existing on public token systems). In addition, sound policy must make a distinction between scams and legitimate projects that happen to fail.

Access to justice is a challenge for many victims of scams who are seeking to take responsibility for their own issues. Taking civil legal action may be possible but is costly. Those costs are exacerbated by the difficulty of identifying perpetrators and the fact that payments are often made to parties outside of Australia. It is possible that the costs of civil recovery could exceed the victim’s initial losses. This situation leads to secondary scams where another perpetrator fraudulently promises full recovery in exchange for a substantial upfront payment. Accordingly, there is a role for public enforcement of the existing law.

A key policy lever is properly resourcing law enforcement agencies to investigate and uncover scams utilising cryptocurrency as a payment method. Federal and State and Territory police forces have dedicated crypto asset units. In our experience, these units are highly skilled

⁶ See <<https://rmitblockchain.io/education>>.

⁷ Chainalysis. 2023. The 2023 Crypto Crime Report, p. 86.

⁸ Chainalysis. 2023. The 2023 Crypto Crime Report, p. 86.

⁹ See e.g., Lane, A. 2022. Crypto theft is on the rise. Here’s how the crimes are committed, and how you can protect yourself. *The Conversation*. <<https://theconversation.com/crypto-theft-is-on-the-rise-heres-how-the-crimes-are-committed-and-how-you-can-protect-yourself-176027>>.

although few in number— existing as a central specialised function and focused on high-value criminal enterprises. Scale could be achieved through the provision of training around cryptocurrency investigations to local police officers, who could be tasked with the lower-value high-volume cases. In the first empirical analysis of Australian legal decisions by RMIT University researchers, there were no publicly reported criminal prosecutions for scams or fraudulent activity.¹⁰ Greater public enforcement of existing law will act as a general deterrent for perpetrators of cybercrime against targeting Australians.

4. Defining ‘Crypto Token’.

The Token Mapping Consultation Paper defines “crypto token” to mean “a unit of digital information that can be ‘exclusively used or controlled’ by a person – despite that person not controlling the host hardware where that token is recorded.”¹¹ Although it may be implied, there is no explicit link between the definition of “crypto token” and the definition of “crypto network”. In any case, we recommend that the definitions specifically include reference to “blockchain”, or “distributed ledger technology”. This inclusion is necessary because it is not just cryptography that makes a crypto asset, but the fact that it is built on the top of decentralised digital infrastructure (i.e., cryptography is one technology in a larger technology stack). Ultimately, we strongly support the distinction made between centralised (or intermediated) and decentralised (or public) token systems.

The Token Mapping Consultation Paper explains that “crypto asset” is “effectively an umbrella term for a crypto token and each of the benefits provided by its token systems.”¹² We recommend that this be simplified as a crypto token is inseparable from its token systems. It is not clear what purpose, if any, this distinction would serve for legislative purposes. Further, we recommend that consideration is given to the limiting effect of the term “asset” to be fully transferable across Australian regulatory frameworks, particularly in respect to accounting standards and taxation. Whilst many crypto “assets” are in existence, there are equally available those that are akin to crypto “liabilities”, combination thereof, or some other categorisation (hybrid, utility, cash, or cash equivalent etc.). These issues along with more generally the interaction with other “asset” and “liability” definitions and treatments (e.g., definitions found within Australian accounting standards and taxation law), will be critical in seeking transferability. This reflects the purpose of the token mapping exercise to map against existing regulatory frameworks. The current scope and approach does not necessarily do this, particularly with respect to taxation. For taxation, RMIT researchers have shown that there is significant uncertainty and complexity for tax practitioners and taxpayers in complying with tax laws.¹³

5. Bespoke ‘crypto asset’ taxonomy.

Token mapping was a key recommendation of the Senate Committee into Australia as a Technology and Financial Centre and was endorsed by the current and previous Federal

¹⁰ See Lane, A.M., Adam, L. 2023. Crime and Cryptocurrency in Australian Courts. *Monash University Law Review*, vol. 48, no. 3, 1-44.

¹¹ Treasury. 2023. Token Mapping (Consultation Paper, Australian Government, p. 13.

¹² Treasury. 2023. Token Mapping (Consultation Paper, Australian Government, p. 16.

¹³ See Morton, E., Devos, K., Vesty, G., Nguyen, L. 2023. ‘The crypto-economy and tax practitioner competencies: an Australian exploratory study’ (Working Paper). Paper available on request.

governments. Consistent with our previous submissions to Treasury, our recommendation is that token mapping is not done as an exercise for its own sake but is done specifically to inform the boundaries delineating the existing AFSL regime and the proposed regulation of crypto asset service providers. Regulatory certainty results from the legislative and regulatory steps that follow the taxonomy — not the taxonomy itself. Accordingly, we agree with the approach of a high-level taxonomy, and do not consider that a bespoke taxonomy is required for the purposes of regulation for crypto asset service providers. Indeed, a bespoke taxonomy is of little value in an ecosystem of rapid innovation and where the characteristics and functions of tokens may change over time. However, as indicated above, we do urge consideration of necessary certainty for tax practitioners and taxpayers in complying with their tax compliance obligations — and a further taxonomy exercise may be an input into that process.

6. ‘Backed’ or ‘wrapped’ assets.

Adopting Treasury’s high-level crypto asset taxonomy, ‘backed’ or ‘wrapped’ assets can exist in both intermediated token systems and public token systems. The design of ‘backed’ or ‘wrapped’ assets is diverse and corresponds with different risk profiles. The immediate regulatory challenges are intermediated token systems generally, and crypto asset services more specifically. Accordingly, we do not consider that any reforms are currently required for specific crypto assets — noting that financial services laws and the Australian Consumer Law already apply to issuers. If Treasury is considering reforms, then specific regulatory gaps and consumer harms should be clearly identified and take into account that there is no single mechanism design for ‘backed’ or ‘wrapped’ assets.

7. Obligations for crypto asset service providers.

As we have mentioned, the Token Mapping Consultation Paper advises that a separate consultation paper on Licensing and Custody arrangements will consider how crypto asset services should be licensed. We anticipate that the obligations set out in the next consultation paper will seek to address the major counterparty risks for consumers — that funds or crypto assets held by a centralised crypto asset business are misappropriated or that the business becomes insolvent.

Information and education is one of the margins in which crypto asset service providers can compete. In previous consultations, we have recommended a requirement for crypto asset service providers to provide or link to basic information as relevant to its prospective retail consumers targeted at preventing scams, fraudulent activity, and custody management, embedded in an industry code. This would achieve good consumer outcomes by focusing on the major areas of consumer harm — and allowing a competitive space for premium offerings.

There is also public information that provides a consumer benefit. A major issue facing consumers in the crypto asset space is the limited ability to conduct due diligence about centralised crypto asset service providers. Even though “Digital Currency Exchanges” in Australia are required to register with AUSTRAC under Anti-Money Laundering and Counter-Terrorism Financing laws, there is no public register. If licensing is introduced, then a public register of those licences — similar to what is available for financial services and financial advice — would be a positive development for consumers.

8. Application of the Financial Services Regime.

The proposal to apply the existing financial services regime to intermediated crypto assets and crypto asset services should be strongly resisted. Defining crypto assets as a financial product would require crypto asset service providers to hold an AFSL licence, which, as the Senate Committee heard, “carries many requirements that are not appropriate or relevant to the digital currency sector as it currently stands.”¹⁴ As such, this would add a regulatory compliance burden without any regulatory benefit. As we have mentioned, labour and capital is mobile. A regulatory environment that excessively raises the costs of doing business will lead crypto asset service providers to move offshore and outside of Australia’s regulatory control.

There are, of course, offerings that are already falling within financial services laws. In those cases, service providers have obtained or can obtain an AFSL, and we would expect that regulatory treatment to continue (although there are reasons to reform the application of managed investment schemes, discussed below). To avoid duplication of licensing requirements, we recommend that a cascading system is introduced whereby if an entity has an AFSL, for example, then it does not require a separate crypto asset service licence.

9. Regulating intermediated crypto assets utilising public crypto networks.

We strongly support a firm distinction being made between centralised (or intermediated) and decentralised (or public) token systems as there are categorically different risks in these systems. A highly regulated financial products regime reflects several factors, but most notably with centralised services most notably there is the existence of the principal agent problem (where the interests of the business and the consumer conflict) and the asymmetric information problem (where the business has more or better information than the consumer and uses that to its advantage). This can be contrasted with crypto assets. As the First Treasury Consultation Paper correctly identifies:

A crypto asset will do what it is programmed to – mathematically – and in a distributed network changing this programming is at least challenging and at best impossible. Similarly, there is no requirement to trust a central authority to arbitrate transactions. Lastly, on open blockchains, information is visible – it is permissionless and transparent. Key market failures intrinsic to financial products are not necessarily intrinsic to crypto assets. This means that much of the need for regulatory recourse that may be required for financial products does not necessarily exist for many crypto assets.¹⁵

The crypto ecosystem is rapidly evolving. Regulators are not well placed to ascertain whether a specific public crypto network is appropriate for facilitating a particular crypto token. Regulators should not seek to be partners in entrepreneurial discovery. Instead, we recommend that regulators adopt a focus on tangible tasks that fall out of the forthcoming licensing framework. For example, monitoring capital or custody through independent third party auditors for certain intermediated crypto assets.

¹⁴ Senate Select Committee into Australia as a Technology and Financial Centre. 2021. Final Report, Parliament of Australia, p. 47.

¹⁵ Treasury. 2021. Crypto asset secondary service providers: Licensing and custody requirements (Consultation Paper). Australian Government, p 13.

10. Regulating intermediated crypto assets beyond the financial services framework.

The case for imposing additional “limits, restrictions, or frictions” to product-level arrangements not covered already by the financial services framework is weak and should be resisted at the current stage. Such a move is likely to stifle innovation, undermine consumer choice and responsibility, and have the perverse consequence of driving consumers to riskier offshore markets. Finally, the practical ability of Australian regulators to actually enforce limits or restrictions on consumers is questionable.

However, such offerings would not be “unregulated.” General protection for Australian consumers for these offerings is already provided through the general application of the Australian Consumer Law (which enables both private and public enforcement).

11. Regulation of marketing and promotion of products within the crypto ecosystem.

The case for imposing standalone regulation of marketing and promotion of products within the crypto ecosystem is weak and should be resisted at the current stage. Marketing and promotion of financial products is already regulated under the Corporations Act, National Credit Act and ASIC Act. Marketing and promotion of products generally are already regulated under the Australian Consumer Law. It should be noted that there are important economic functions of marketing and promotion which benefit consumers, including reputation, brand and product differentiation, and competition.

12. Smart Contracts.

The predominant public policy challenge for smart contracts is in the area of dispute resolution, although we recognise that this is beyond the current scope of the Token Mapping Consultation Paper. Smart contracts can be defined as “agreements—or parts of agreements—that are coded to operate within a decentralized or distributed blockchain network, and that can be automatically executed by that network when specific conditions are validated.”¹⁶ There are a wide range of applications for smart contracts. RMIT Blockchain Innovation Hub research has considered the following (non-exhaustive) possibilities where disputes may arise:

For example, what happens if the code does not execute in accordance with the intention of the contractual agreement due to unforeseen circumstances frustrating the agreement? What happens if the contract assumes that an event will take place that does not actually occur? What happens if an “oracle” used to measure or verify performance ends up malfunctioning or getting corrupted? What happens if there is difficulty in understanding the coding language and its implications for contractual interpretation?¹⁷

Ultimately, the mechanism chosen for resolving disputes (e.g., negotiation, arbitration, courts) is a governance decision. There is a public policy challenge in bolstering the capacity for public institutions like courts and tribunals to be efficient and effective places for dispute resolution.

¹⁶ Allen, D.W.E., Lane, A.M., Poblet, M. 2020. The Governance of Blockchain Dispute Resolution. *Harvard Negotiation Law Review*, vol. 25, no. 1, p. 78.

¹⁷ Allen, D.W.E., Lane, A.M., Poblet, M. 2020. The Governance of Blockchain Dispute Resolution. *Harvard Negotiation Law Review*, vol. 25, no. 1, p. 82.

For instance, judicial officers may require professional development to be able to understand and adjudicate smart contracting matters. More ambitiously, court administration services could work with international standards bodies to develop machine-readable and machine-computable court orders that could feed into smart contract applications as “oracles”.¹⁸

13. Decentralised Finance and Collateralised Lending.

The comparison between collateralised lending in decentralised finance (DeFi) contexts and pawnbroker is unhelpful. The pawn-broker business model is criticised for undervaluing the collateral compared to a fair market price, charging exorbitantly high interest rates that discourage consumers from reclaiming assets, and engaging in discriminatory and unconscionable practices. In contrast, DeFi lending protocols operate on blockchain platforms which are transparent and cannot be manipulated, utilise pricing oracles which provide real-time fair market value for collateral, and the collateral is held in escrow and is applied using deterministic rules. These facts strengthen a regulatory distinction being made between centralised (or intermediated) and decentralised (or public) token systems as there are categorically different risks in these systems.

Although still in the early stages of being an experimental application, DeFi lending promises to provide access to financial services for individuals who may not have access to traditional banking or lending services — promoting financial inclusion. The RMIT Blockchain Innovation Hub was recently awarded a \$300,000 grant from the Templeton World Charity Foundation to investigate how DeFi can help alleviate poverty in the developing world by conducting randomised control trials in two developing economies, Guatemala and Vietnam.¹⁹ This research is ongoing.

14. Automated Market Makers and Decentralised Exchanges.

Automated Market Makers (AMMs) are used for creating decentralised exchanges (DEXs). Through AMM protocols, a DEX allows users to directly exchange one crypto asset for another crypto asset (i.e. without a centralised third-party responsible for overseeing or facilitating trading activity). Our RMIT Blockchain Innovation Hub colleague explains the trade-offs as follows:

Centralized exchanges can be easier to implement but suffer from a number of drawbacks: traders lose custody of assets and must trust the exchange to not seize assets; they can be susceptible to security threats due to a single point of attack; and, centralized exchanges for cryptocurrencies have been subject to little regulation. DEXs, on the other hand, do not rely on trust in, or security of, a single centralized party as traders retain custody of assets and smart contracts execute trades. They are, however, harder to design and implement, and can charge higher fees to attract liquidity.²⁰

¹⁸ For further discussion of oracles and smart contracts and oracles and decentralised finance see e.g., Poblet et al. 2020. From Athens to the Blockchain: Oracles for Digital Democracy. *Frontiers in Blockchain*, vol. 3, pp. 4-6.

¹⁹ See <<https://rmitbih.substack.com/p/alleviating-poverty-in-the-developing>>.

²⁰ Mohan, V. 2022. Automated market makers and decentralized exchanges: a DeFi primer. *Financial Innovation*, vol. 8, pp. 1-48.

As such, the case for regulating DEXs is not clear given that these operations are carried out without a central authority, operate on transparent open source blockchains, and require self-custody of crypto assets. Regulation in decentralised (public) token systems would, however, impose significant regulatory barriers that risks further driving talent and investments offshore – and would be a handbrake on future innovation in DeFi. In any case, there would be significant practical difficulties for Australian regulatory agencies seeking to enforce regulatory requirements. Again, these facts strengthen a regulatory distinction being made between centralised (or intermediated) and decentralised (or public) token systems as there are categorically different risks in these systems. Ultimately, different consumers will have different risk preferences – and consumers are best placed to use the combination of a centralised exchange or DEX that accords with those preferences.

Notwithstanding this, it is a current possibility that regulators may seek to impose Managed Investment Scheme (MIS) framework on DEX offerings and broader DeFi offerings. This is because investors pool crypto tokens in these automated exchanges and earn profit through fees. This is significant because a registered entity of an MIS is required to be a public company and hold an AFSL.

There are two key regulatory problems in applying the MIS regulatory framework to DeFi products like AMMs. First, these schemes have no manager (i.e., there is no responsible entity on whom the obligations of a financial services licence could be meaningfully imposed or exercised). The scheme – and thus the return on the investment – is determined entirely algorithmically. Second, AMMs have no responsible agent. Amendments to the protocol (e.g., varying the fee for investors) are entirely controlled by the voting behaviour of governance token holders (typically investors). Applying the rules governing managed investment schemes to these autonomous and algorithmic financial products is a category error. In any case, treating a DeFi product as an MIS would not achieve the government's policy goals. DeFi products are censorship resistant and fully digital. Australian investors are able to interact with DeFi products developed around the world at almost zero cost. Regulatory avoidance is trivially easy because these products can be freely 'forked' (i.e., their code copied, modified, and re-deployed permissionlessly). In our experience, the possible application of the MIS framework to Australia-built DeFi products means that Australian companies are highly reluctant to innovate in this frontier fintech field.

Accordingly, we recommend that the Corporations Act and/or the Corporations Regulations should be amended to exempt "autonomous financial products" from the existing definition of a MIS where it is fully algorithmically deterministic (i.e., all investment decisions are made by an algorithm rather than a responsible human entity), governance decisions are sufficiently decentralised and made solely by those who have invested; and fully open source, allowing investors to scrutinise the code themselves.