5 Laws of Tokenomics

Andy Martin Blockchain is really a governance technology

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This paper is the summary of recent posts and newsletters on Linkedin. Most of the infographics used in this article are here.

Introduction

This is a sister paper to my first paper called the "Token economy" published on the 16th October 2021 (**https://ssrn.com/abstract=3972111**) and takes a deeper dive in the 5 Laws of Tokenomics. Before anyone gets upset maybe I should have called this the "5 guiding principles for the Token Economy business model design", but I rather like the sound of "Law" but yes, these are ideas and can only become economic laws once fully thought out.

Why do we use the word "design"

Token economy - Why do we use the word "Design" in the "5 Laws of the Token Economy business model design?" So, a blockchain is an economy in code. Here we change behaviours of the economic actors in a network (or DAO) to create win-win-win outcomes. Everyone wins - in a fair way, we don't have to have equal outcomes, but we do have to have fair outcomes. And the word "Design" means the "intent behind an outcome." So, what does it mean to be intentional about success in the Token Economy? It means we need to Design it. That's the beauty of the Token Economy. The governing function of our DAO and the Apps built on it, will come together to govern the fairness of the outcomes in our community. How great is that?

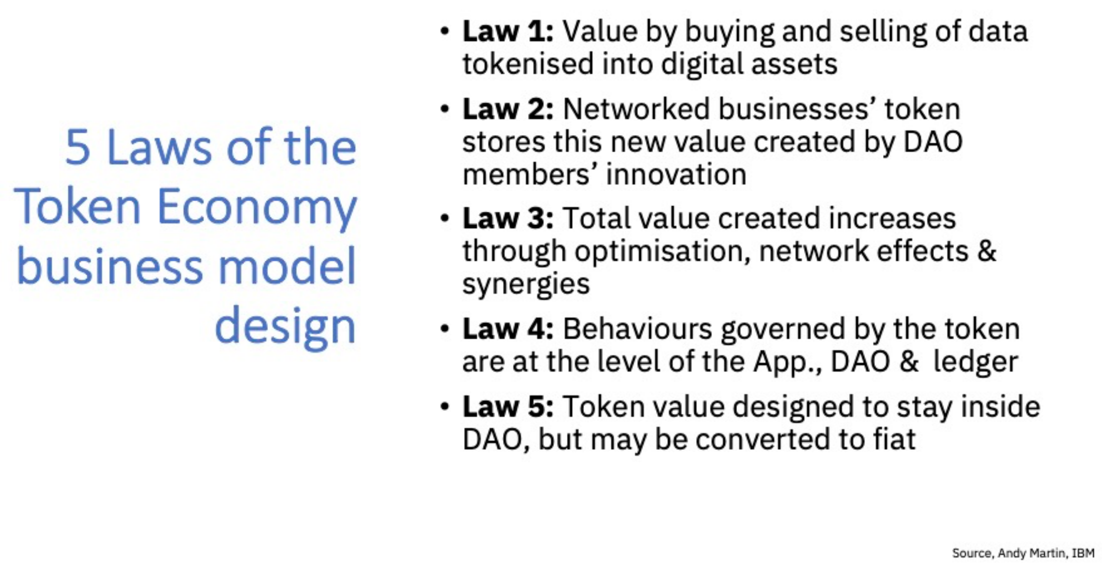

Figure 1: 5 Laws of Tokenomics

Law 1: Value by buying and selling of data tokenised into digital assets.

New value is created through collaboration by buying and selling of data tokenised into digital assets within and across networked businesses which is a new layer in the business hierarchy. Payments are made in the internal currency of the networked businesses or DAO. This data is the fuel for a new generation of innovative apps. provided by a new generation of innovators using the foundations of certainty of identity, certainty of provenance and certainty of execution of payment.

This internal currency is also used to pay decentralised providers of bandwidth, storage and infrastructure and validators and orderers of these transactions onto the DAO's ledger. Governance of the DAO's internal currency allows this value to democratise value across all members of the DAO in a fair and democratic way. The DAO governs the mint and burn of these utility tokens and any leakage of value outside the DAO's internal market app. store back into fiat.

In this way governance of this utility token is governance of incentives for helpful behaviour changes in designing win-win-win outcomes. Everyone wins.

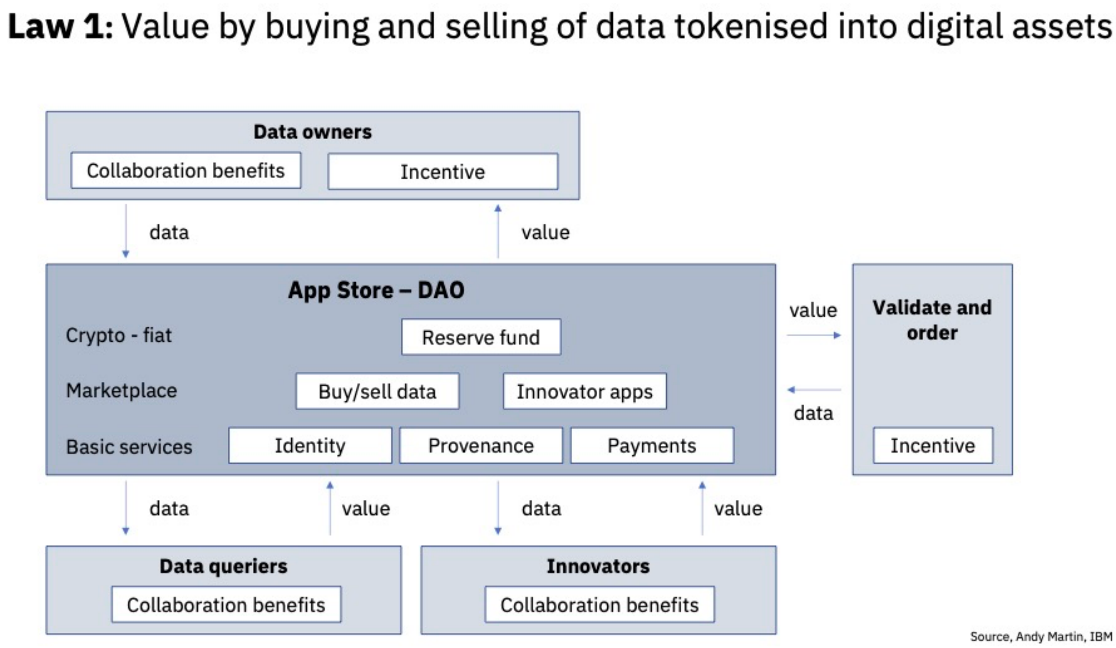

Figure 2: Law 1 of Tokenomics

Law 2: Networked businesses' token stores this new value created by DAO members' innovation

We can think of blockchain as a thin layer over the existing silos of data and today those silos are traditional companies. This new layer forms a new type of business entity that looks more like a network. Unlike a traditional company its ownership is not represented by equity. Rather its ownership is represented by a token or marketplace currency. As members of the DAO innovate then they create more transactions within the DAO. This expands the economy of the DAO. Just like the currency exchange & interest rates for a country is a barometer of the economic activity within that country then the increase in the exchange & yield rates of our marketplace token relative to other tokens or to fiat can represent the growth of transactions for our DAO. Like decentralised funding (debt & equity) in our DAO.

I see the future as a hybrid of public and private where you can have both private and public data, and both private and public transactions. I recently listed out 5 ways that you could do this of which all are in production today.

So in summary this new layer of networked businesses are decentrally governed in a DAO by a marketplace currency or token that stores this new value created by DAO members' innovation of bringing new digital products & services to this DAO and of the trading activities of these digital products & services.

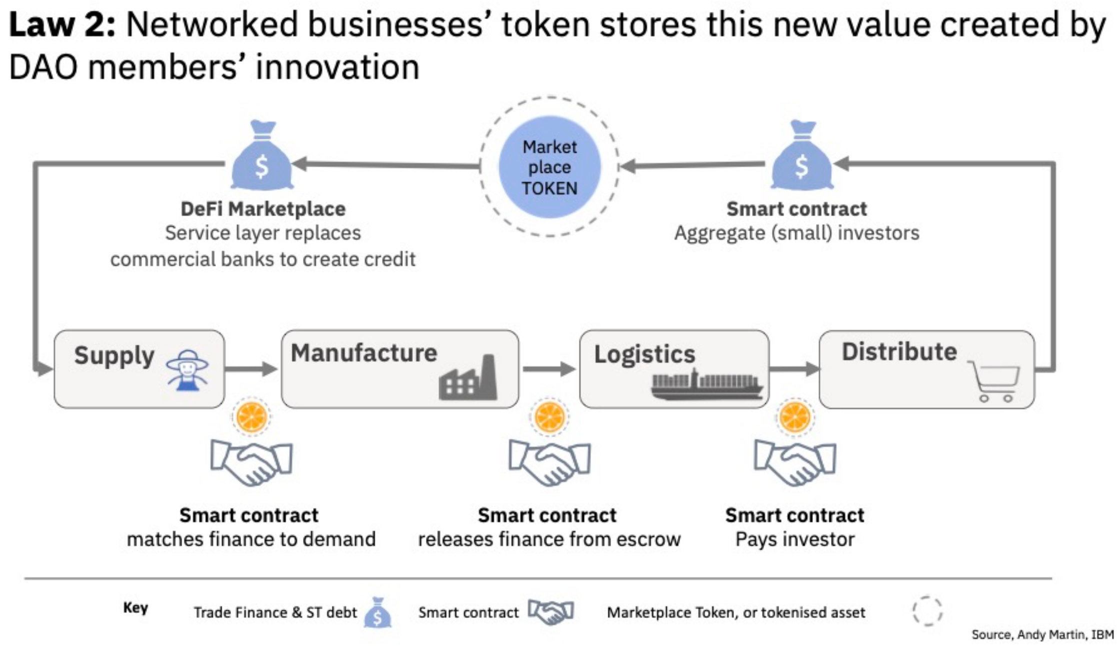

Figure 3: Law 2 of Tokenomics

Law 3: Total value created increases through optimisation, network effects & synergies

We design the economics of our digital market place to keep the value inside our DAO in a virtuous circle of buying and selling. And this marketplace token is the key governing tool to change behaviour like loyalty points.

But the value comes from who is on our network and what they can buy and sell. The first value achieved is "elimination of ecosystem reconciliation." With one place to go where everyone can see what is going on, we remove the need for the buyer to reconcile the price and quantity of their purchase orders and purchase invoices to the seller's sales order and sales invoice. And vice versa. This is huge in removing B2B friction. This value increases exponentially as the number of buyers and sellers increases by Metcalfe's Law as the number of buyer/seller combinations increases, n(n-1)/2, for each new member, n.

And our asset in our DAO is who is in the DAO and what data they bring. This data is a new class of data that is "trusted data at the level of the market." This quality of data never existed before and it is a magnet for a new generation of innovators to find new ideas of how to join the dots to add new value propositions to our marketplace reusing the basic capabilities of certainty of provenance (what am I buying), certainty of identity (who am I buying from which might be pseudo-anonymous reputation) and certainty of execution (if I do this then I will get paid in our marketplace currency

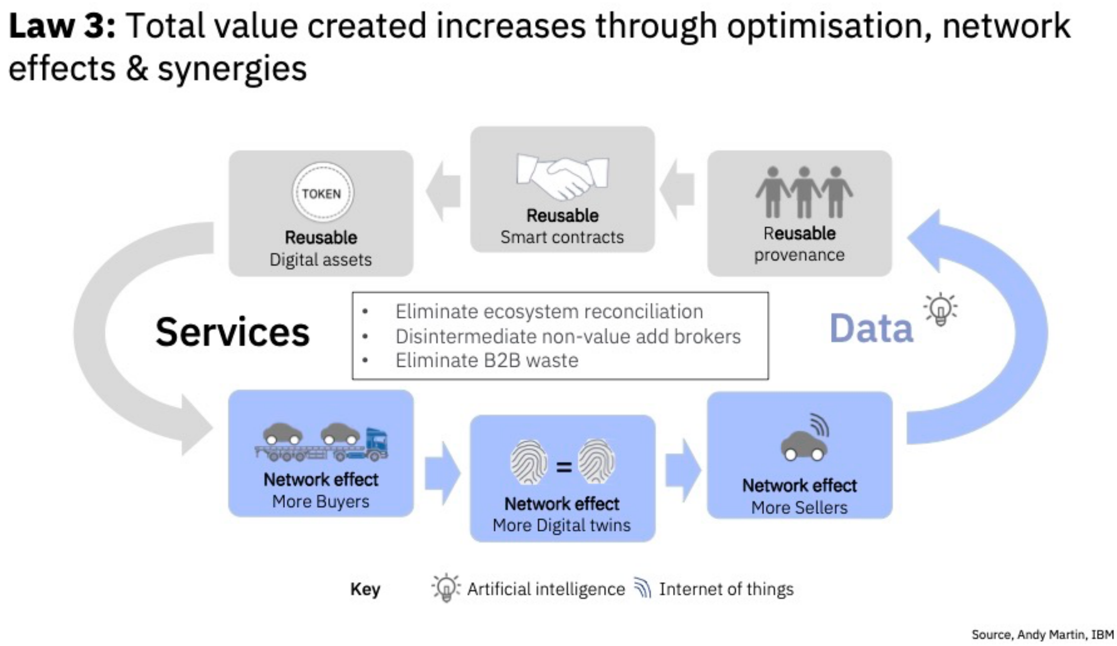

Figure 4: Law 3 of Tokenomics

Law 4: Behaviours governed by the token are at the level of the App., DAO & ledger

A blockchain is a behaviour machine. We change the behaviour of network economic actors to increase the network's ability to deliver valuable outcomes and in a "win-win-win" model, everyone wins, everyone is better off. To do that the network or DAO. needs to be able to govern behaviours which is done via utility tokens, also known as our "Marketplace Token."

At the ledger level these utility tokens are used to reward the validators and orderers of transactions and the provision of storage, bandwidth and compute.

At the DAO level these utility tokens are used, along with my identity token, to pay for access to the marketplace and are staked for the right to provide innovative digital products and services to the community. Tokens are also used for on-chain voting and community democratic decision making.

At the app. level these utility tokens are used to pay for digital products and services and to access and use data, maybe held in a NFT token. Tokens can be used to democratise value outcomes fairly across all economic actors as an economic incentive to encourage helpful behaviours towards the collective outcome.

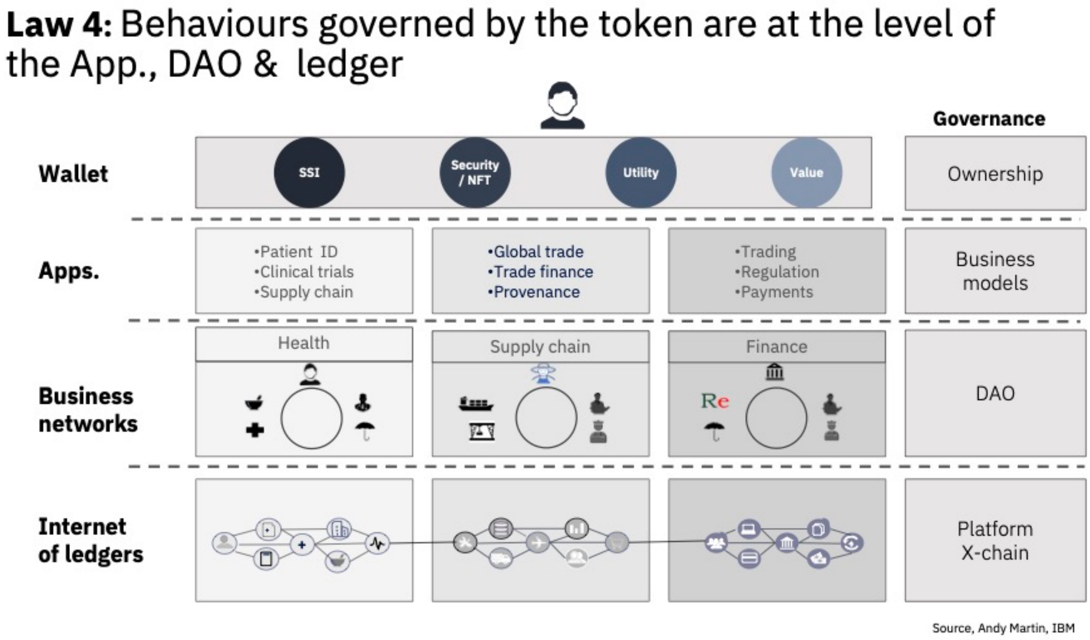

Figure 5: Law 4 of Tokenomics

Law 5: Token value designed to stay inside DAO, but may be converted to fiat

The asset that we have in our DAO is "who" is in the community, what data do they bring to the community and what level of innovation can innovators come up with, to join the dots of these data points, to create new value.

The key tool to govern helpful behaviours in the DAO is the marketplace (or utility) token. All transactions internal to the DAO are settled in this token, which can be be used to encourage helpful behaviours of the DAO's economic actors and to democratise value outcomes across the community, to make everything fair.

Our token may be convertable into fiat (or for that matter other tokens) and so a bridge in and out of our reserve fund is needed as well as a capital reserve fund to govern exchange volatility.

The basic design though is to create a circular flow of tokens inside our marketplace. Innovators need to buy tokens so that they can stake them to earn the right to provide these innovative digital products and services to the community. Likewise data queriers (that is users) must buy token to pay for these innovative digital products and services.

Innovators, data owners and orders/validators are rewarded in tokens which they could redeem or better still recycle into the market to either buy more services or to be able to stake/provide more innovative services.

The aim is to grow the economic value created in the marketplace though ever increasing volume of activity of transactions and thus increase the market value or exchange rate of the marketplace token. In this way holders of the token are rewarded in a kind of decentralised equity way.

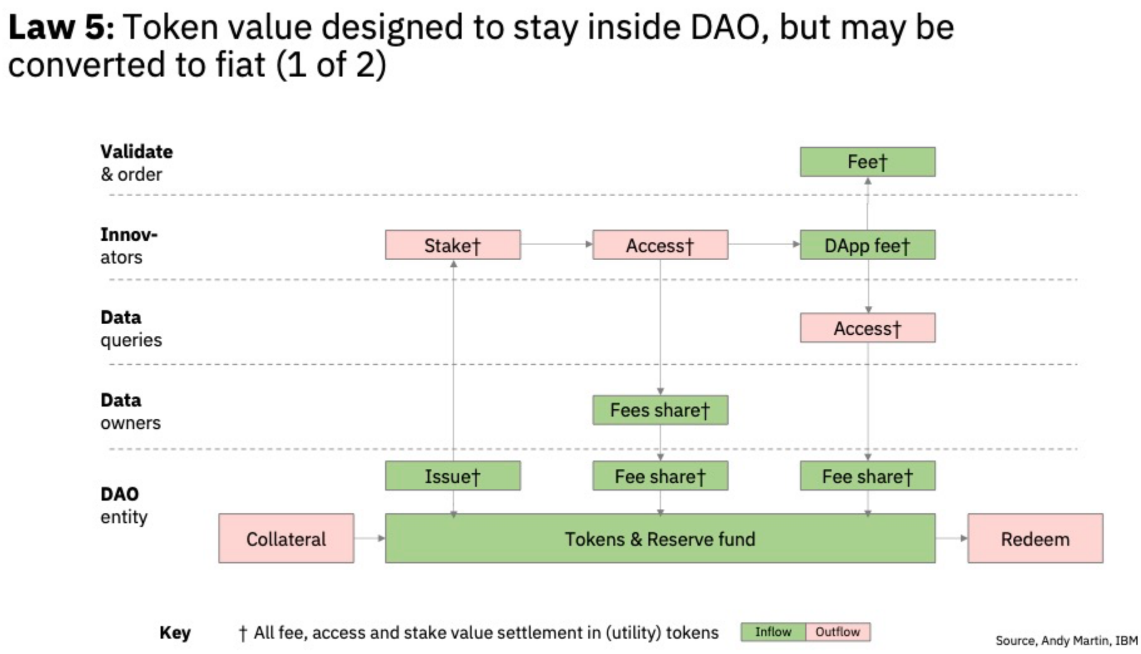

Figure 5: Law 5 of Tokenomics (part 1)

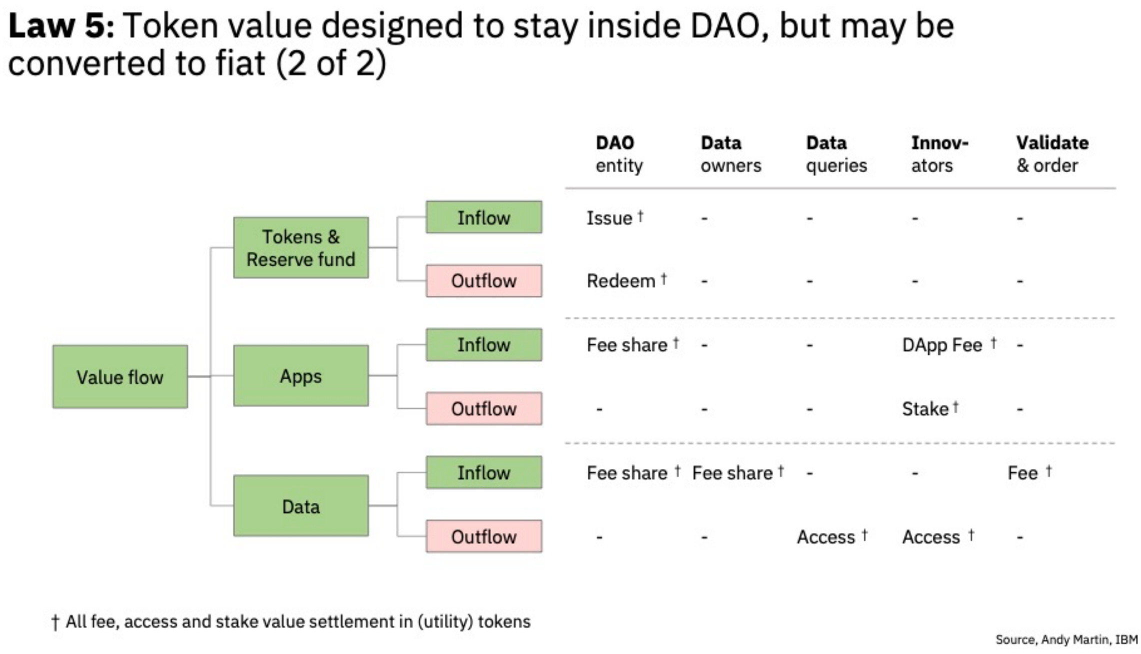

Figure 7: Law 5 of Tokenomics (part 2)

If you want to learn more about this thinking you can read or reference the sister paper to this whitepaper called the "Token Economy" **which is published on SSRN.**

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