

Tokenizing SDGs

behavioral dimensions of an evidence based impact evaluation

Design Workshop: Smart Impact Bonds 1.0
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Introduction

The rise of cryptoeconomics is closely linked to the belief that human reactions to incentives are rational and predictable. A fact that is hard to reconcile with modern knowledge of human decision making and behavior. At the same time the most critical question remains unanswered: If we use incentive design to coordinate and optimize towards social good – how does our objective function look like? And how far can or should we scale the answer to that question? According to Dunbar's number the answer is 150 – the amount of peers the average human is able to maintain stable social relationships with. Maybe unsurprisingly the maximum troupe size in chimpanzees as well. Through (social) innovation homo sapiens scaled that number up through history. From tribal societies, to kingdoms, nation states and transnational organizations. Distributed ledger technologies might just enable the next transition towards a truly global governance model. Can the SDGs be the first hint towards the according objective function and how can we scale our impact on them?

Challenges

Humans do not act rationally and choices can better be understood through an evolutionary lens. Our actions depend on individual experience, context and our altering identities. Designing incentive mechanisms that are resilient in these contexts is an incredible challenge. It works very well in the case of Bitcoin because the system does not depend on completely rational actors and incentivizes towards a one-dimensional goal: maintaining trust in the system. Accordingly trust is framed as a problem in Satoshi's White Paper, which has its own problematic implications. Achieving embedded goals as agreed upon under the 2030 Agenda in contrast requires the system to be embedded in a trusted community to be protected from out of system risks. Especially given the correlation of scale and systemic risks. As Elad Verbin and Al Esmail state: *"The oracles and prophets of this brave new world would be well advised to heed caution when trying to build an economy from scratch."* Furthermore we have to define impact. The success in achieving the SDGs is expressed in 232 different indicators. However indicators that are used by (smart) impact bonds are defined on a much more detailed level. Distributed ledger technologies could be the key to harmonize efforts while providing a turn-key solution to avoid double accounting in that context. To finance these efforts using bonds and futures the prices have to reflect the evidence-backed impact of the specific initiative. Such evidence can be established using randomized controlled trials. Implementing these could mark the line between causation and correlation in impact assessment and allow for transparent accounting between multiple efforts in the same field of action. Before venturing into large scale human experimentation the ethical dimensions have to be discussed among all stakeholders. Only widespread participation, inclusiveness and equally distributed ownership can establish the necessary acceptance.

Proposal: Smart Experiments

Fine grained data meets fine grained interventions and initiatives. Web 3.0 gives us access to high-definition data. This is a great vantage point to find correlations. But the intention of every action for social impact is to be the cause of a positive change. The above mentioned (automated) randomized controlled trials might be the answer to many of the challenges impact financing is facing. Deploying targeted interventions using Web 3.0 will generate the data necessary to establish causation even in the most heterogenous samples.

To ensure the desired effect across different cultural contexts small experiments have to be employed on a large scale. While such solutions do not depend on DLTs and are already being deployed on a large scale, they are no open systems that encourage bottom-up participation. Submitting ideas or identified potentials for social impact could be incentivized and then be tested by automating experimentation using smart contracts – smart experiments. This would also solve the scaling and with it the risks and large opportunity costs associated with impact financing. The funds and risks at the beginning of each experimental cycle are small and are provided by bets on the success of the experiment in addressing a pre-defined problem. This would enable bottom-up action to identify the most pressing problems and participate in the social profits provided by them through both the incentive scheme as well as the direct effects impacting their communities. With the completion of each cycle the results of the experiment can be assessed automatically and boiled down to the most promising interventions. Creating a test and learn environment using smart experiments would provide a lot of security to impact investors as expected payouts can be calculated using scientific evidence.

Building bottom-up smart experiments will enable an evolutionary approach to impact design and open new avenues to impact financing, scientific data-generation and sustainable governance of common resources.

Further reading & (incomplete) sources of inspiration

In Search of Homo Economicus: Behavioral Experiments in 15 Small-Scale Societies – Henrich et. al.

Link: <https://www.umass.edu/preferen/gintis/Anthro%20AER%202001.pdf>

Behavioral Crypto-Economics:

The Challenge and Promise of Blockchain Incentive Design – Elad Verbin and Al Esmail

Link: <https://medium.com/berlin-innovation-ventures/behavioral-crypto-economics-6d8befbf2175>

Please, Not Another Bias! The Problem with Behavioral Economics – Jason Collins

Link: <http://evonomics.com/please-not-another-bias-the-problem-with-behavioral-economics/>