What is it about Smart Impact Bonds?

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What is it about Smart Impact Bonds? (Part 2)

In my last piece, I wrote that Social Impact Bonds (SIBs)

(...) tend to be very small-scale. And being small-scale, they do not really solve any relevant problem. Two critical issues linked to SIBs' limits to scale are (1) trust issues linked to verifying deliverables that trigger payments to investors, and (2) lack of diversification of risks that may prevent providers from reaching delivery goals. [Relying on] blockchain [through the so-called Smart Impact Bonds] is neither necessary or sufficient to improve on those critical issues.

Having just attended an exciting workshop on Smart Impact Funding, organized by the ixo Foundation and hosted by UBS Optimus Foundation, I think it is important to expand on that argument. Something can be neither necessary or sufficient and still be useful (or harmful). This piece discusses which is the case for smart impact bonds.

Useful smart

Even though embedding SIBs in blockchain does not solve verification or diversification issues, doing so could still help in other dimensions—as other tools tackle fundamental constraints to SIBs' scale.

In particular, a well-designed blockchain system could enforce the redistribution to SIB beneficiaries of (part of) the surplus they contribute to when enabling investors to better verify deliverables, or to better diversify their risks.

Verification
Think about a verification system based on the Internet of Things (IoT) to ensure that SIB providers actually deliver contractual outcomes. Every time a child enters school, every time a farmer opens its fertilizer bag, or every time a chlorine dispenser is used (pick your favorite example), IoT could automatically record those ‘deliverables’ (into blockchain or not).

An important problem this fix generates is data sovereignty: who owns the data? It is valuable data—which, more and more, individuals will not even know if, how and when it is generated—that companies are eager to monetize (think of Cambridge Analytica, for starters).

Blockchain could help distribute at least part of the market value of such data to the users who generate them—precisely SIB’s beneficiaries. How? By having at least part of the price paid by the data transferred directly back to the original token-holder, every time the token changes hands.

This logic allows for even more sophisticated arrangements. For instance, I may consent that every bit of data I generate gets used by Government and NGOs, but not by corporations. Such restrictions could be applied to the rules that orchestrate transactions involving my token in the blockchain.

This is top-notch data sovereignty which I have little hope could be achieved through Government regulation.

**Diversification**

In Part 1, I mentioned SIB investors could achieve at least some diversification by holding stocks of different organizations implementing different SIBs, subject to different idiosyncratic risks. Blockchain is not necessary for that, although of course a similar arrangement could potentially be achieved by setting up a market for Impact Claims—subject to constraints linked to liquidity, visibility, and price discovery issues.

If such arrangement was actually feasible in blockchain, it could yield an advantage that is typically impossible through regular stock market diversification, namely, redistributing to SIB beneficiaries part of the diversification surplus they help generate. The simplest mechanism to
do that would be a “tax” that redistributes part of the transaction value back to beneficiaries every time an investor’s transaction takes place.

Other benefits

Of course there are other potential benefits to having a SIB embedded in blockchain—even if completely disconnected to the issue of SIB’s scale.

I here highlight two such potential benefits.

First, the possibility of assigning equal voting rights (tokens) to every community member and allowing members to trade tokens to decide which project should be funded by the SIB. This system allows beneficiaries to express intensity of preferences—which democracy often does not—and has the potential to get around power inequalities (I emphasize potential, due to the several trust issues I raised in Part 1).

Second, the fact that trading tokens generates incentives for individuals to engage early on, even well before the SIB actually pays out (if it ever does). To the extent that tokens have liquidity, their price should reflect SIB’s present value (a weighted average which accounts for market’s expectations of its probability of success, of course). That is the case even if beneficiaries never heard of derivatives or futures’ markets (but read through the end of this piece).

Harmful smart

If you are a sensible person, by now you should be laughing out loud.

The target audience of SIBs (or, at least, of Development Impact Bonds, DIBs) are poor people in countries underdeveloped enough that they cannot typically mobilize funds for basic needs. And to reap the benefits afore-mentioned such individuals should access connected devices, trade tokens in the blockchain, compute net present values...

Well, perhaps they could benefit even if they mess up some trades. Or perhaps at least some (however few) actually benefit, but no one gets hurt. So what is the problem?
The problem is that—like "trustless"—"neutral"
often does not exist. Hell is full of good intentions.

Think about the voting example above. If only the local elite owns
connected devices, or understands how blockchain works, then not
only will SIBs reflect local elites’ priorities, but also inequality is likely
to increase. This is precisely the opposite of what we typically would
like to do with the help of social impact bonds (hopefully even more so
if they are smart).

The United Nations has just launched a blockchain initiative,
Blockchain for UN. To me, that sounds crazy. There are many other
technologies with the potential to deliver immediate positive impacts:
for one, drones and wearable technologies, which my research team at
the University of Zurich is combining to generate early warning systems
in Malawi, in partnership with UNICEF. [Note: UNICEF Malawi taps
into the largest humanitarian drone corridor in the world, you got to
watch this!]

While such technologies could be further tested and scaled elsewhere,
UN officials are busy thinking about blockchain.

Will a time come when such efforts are proven high-value? I will leave
this one for your own judgement.

Technology for whose sake?

I think two simultaneous phenomena explain the current fetish of
blockchain, in comparison to other technologies, particularly in the
context of SIBs.

The first is that people who understand Development work tend not to
understand blockchain. The second is that people who understand
blockchain tend not to understand Development work. If the latter
understood the local context to a deeper level, they would not be
pitching this in the context of DIBs. And my wild guess is that, as
Development people become more aware that IoT is not the same thing
as blockchain, this fetish will tend to fade.

Beyond the fetish, however, I believe there are extra reasons for why applying blockchain to SIBs is currently so popular. Blockchain lies within the pool of technologies impact finance can now tap into to make investors feel safer. To the extent that investors are happier, they should be more willing to invest, increasing the scale of beneficiaries targeted by impact funding. So anything that makes investors happy is worth pursuing, right?

Well... let's consider a concrete example (with or without blockchain): that of verifying children's attendance in school. A popular example now and again in Brazil's public debate involves inserting a microchip into every student's uniforms, and some sort of chip detector at the school entrance.

This may be great for investors—allowing them to verify deliverables of a SIB provider—, and is certainly great for microchip producers and software developing companies that write code for such system. [Feel free to replace microchips with iris-readers, and the same follows].

Is it great for students and their families? Well, beyond potential hassles that disrupt parent's and children's routine (which different technologies may more or less subtly address) just because of technology, it is typically a huge investment just for the sake of verification. Were this money (all fixed and variable costs) used for serving additional beneficiaries, would we still conclude the investment was worth it from the beneficiaries' perspective?

Some would claim that setting up such systems has added benefits, such as the possibility of informing parents about children's attendance—with proven impacts on children's attendance and learning outcomes.

However, if one were truly interested in making students better off, my research shows that there are much more cost-effective ways of doing that, such as nudging parents to pay attention—just as powerful as (and, in some cases, even more than) informing them about their children's absences. Most importantly, nudges are possible even on the complete absence of real-time information systems.
**TL; DR**

Even though blockchain is neither necessary or sufficient for increasing SIBs’ scale, well-designed blockchain system **could be useful to enforce the redistribution to SIB beneficiaries of (part of) the surplus they contribute to** when enabling investors to better verify deliverables, or to better diversify their risks. **However, if only the local elite owns connected devices, or understands how blockchain works, then not only will SIBs ran on blockchain reflect local elites’ priorities, but also inequality is likely to increase.** This is precisely the opposite of what we typically would like to do with the help of social impact bonds.