

Editorial

Tokens, Coins & ICOs – Status and Need of a Holistic Evaluation

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The first half of 2018 was an ambivalent time for “coin economy”. One could count 1,700 digital coins and aggregated market capitalization of approx. USD 300 billion. Since 2017, public awareness has shifted from coins to initial coin offering (ICO). Until July, ICOs collected USD 12 billion, versus USD 7 billion for 2017, with nearly half of that funding for EOS (USD 4.2 billion) and Telegram (USD 1.7 billion) according to the research firm Autonomous Research. In parallel, decentralized exchanges (DEX) – quasi Napster for coins – entered the market. On the other hand, more insight was achieved into the limitations of blockchains (i.e., the various distributed ledger technologies – all partial workarounds for the Fischer-Lynch-Paterson “Impossibility of distributed consensus” of 1985).

Agustín Carstens, BIS, summarized quite well: *“While perhaps intended as an alternative payment system with no government involvement, it has become a combination of a bubble, a Ponzi scheme and an environmental disaster.”* Technological restrictions became

obvious when the first successful “51% attacks” on two minor coins happened – before known as a “theoretical” problem of proof-of-work consensus mechanism. An attack with at least 51% of the network’s “hashpower” accomplished a double spend attack on Bitcoin Gold, and Monacoin in Japan suffered from a block withholding attack after one miner achieve 57% “hashpower”.

Eric Budish discussed the economics of such attacks and the principle tendency of proof-of-work consensus networks towards centralization with few dominating rent-seeking “minors” in *“The Economic Limits of Bitcoin and the Blockchain”*. Whilst the concept of Bitcoin assumed a P2P network without hierarchy and intermediaries, it evolved to an onion-like model with few rent-seeking providers (i.e., “miners”) and many service-consuming users.

Similarly, ICOs started as a way to fund start-up companies without the burden of traditional financing – sometimes with nothing more



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than a whitepaper. Some ICO enthusiasts called for specialized regulation due to the novel nature of “ICO”. Nonetheless, a new label on an old bottle does not change content, and existing regulation covers the whole spectrum from money-like via loan-like to securities-like instruments.

William Hinman, US SEC, put it straight: *“The digital asset itself is simply code. But the way it is sold – as part of an investment; to non-users; by promoters to develop the enterprise – can be, and, in that context, most often is, a security – because it evidences an investment contract.”* Major supervisors, e.g., SEC, ESMA, BaFin, and FINMA, share a principle-based approach, issued warnings for consumers and guidelines for companies preparing an ICO, or started enforcements as a last measure.

Even if one focuses on technical use of “tokenized assets” in securities processing, “tokens” have to be compared with existing dematerialized securities. The current system

with a custody chain developed as an efficient compromise between shareholder register (centralized at issuer; push of payments) and bearer note (decentralized at investors, pull of payments). Any novel technology has to be more efficient, faster, or more cyber-resilient. Nevertheless, the discussions about blockchain technology act as a catalyst, disrupts mindcuffs, and facilitate new initiatives in the financial industry.

The current mélange of hype and hope emphasizes that profound discussions in the age of digitalization require two capabilities: a detailed understanding of financial market infrastructures, banking processes, and regulation on the one side, and insight from computer sciences, digital technologies, and – in the context of blockchain(s) – game theory and graph theory on the other side. Both will be key to turn innovative visions to tangible advantages. The E-Finance Lab is a great catalyst to put the puzzle together and to promote an exchange between practitioners, entrepreneurs, scientific research, and students.