(level of anonymity of participants). These different types of platforms distinguish themselves by their degree of decentralization (see Figure 2).
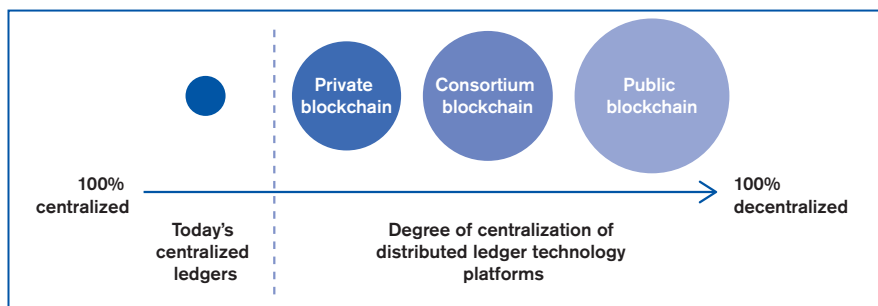
(i) Public blockchains

In a public platform, no specific entity/entities manage(s) the platform, transactions are public and individual users can maintain anonymity. No user is given special privileges on any decision. As such, it is a completely trustless system, in that it does not rely on a trusted party to validate the transactions but instead relies on the nodes to come to a consensus before any data (transaction record, block, etc.) are stored on the ledger.

Public blockchain platforms, however, need to ensure that users are incentivized to reach consensus. On the Bitcoin blockchain, for example, the verification process requires the performance of complex mathematical problems. The miner*, i.e. "validator", who first solves the mathematical problem, is rewarded through Bitcoins. Fees charged in return on users differ significantly between platforms. They are, by far, the highest on the Bitcoin platform.[14] In early November 2017, the average fee charged for Bitcoin transactions reached more than US$ 11 per transaction, leading some in the community to argue that the system had reached its limit (see Table 2 in Section 4.2(a), as well as Redman (2017), Chaparro (2017) and Bershidsky (2017)).

Most public blockchains are permissionless, i.e. they are open to everyone. Thus:

■ Any individual can download the required software on their device without permission and start running a public node, validating transactions and thereby participating in the consensus protocol – the protocol that determines which blocks get added to the chain;

Figure 2 The degree of decentralization of distributed ledgers varies

Source: Author.