issues depend on the nature of the blockchain application being developed and are not addressed in this section, but they need to be kept in mind by authorities and companies looking into blockchain uses.

(i) Legal validity of blockchain transactions

The legal status of blockchain transactions and smart contracts remains uncertain, not to mention that of financial instruments issued on a blockchain.[23] Blockchain transactions open classification issues (Werbach, 2018). How are activities that are legitimate, but that are not structured according to the legal requirements of the non-blockchain world, to be classified?[24] Does information stored on a blockchain representing ownership or the existence of an asset prove real ownership or the real existence of that asset? To what extent would a court recognize Blockchain as an immutable, tamper-proof source of truth (Cermeno, 2016)? Are smart contracts legal contracts? Are bonds and derivatives issued on a blockchain legally valid?

Some initiatives have been taken at the international level to try and clarify the legal status of such transactions and processes. On 13 July 2017, the UNCITRAL adopted the eagerly awaited Model Law on Electronic Transferable Records (United Nations Information Service, 2017). The Model Law enables the use of electronic transferable records and sets out the conditions that must be met if an electronic record is to be treated as a transferable document, i.e. a document that entitles the holder to claim fulfilment of the obligation indicated in the document – such as in the case of bills of lading, bills of exchange, promissory notes and warehouse receipts. The principle of neutrality embodied in the Model Law allows the use of all methods and technologies, including distributed ledgers, to be accommodated.

The adoption of the UNCITRAL Model Law on Electronic Transferable Records is an important development which, if transposed into national legislation, can open the way to the legal use of blockchain technology for international trade transactions. The Model Law usefully complements the UNCITRAL principles that guide electronic commerce. Pursuant to the principle of technology neutrality embodied in the Model Law on Electronic Commerce (1996, revised in 1998), the Model Law on Electronic Signatures (2001) and the Convention on the Use of Electronic Communications in International Contracts (2005), a data message stored on a blockchain is deemed to meet the paper-based requirements of writing and a signature, provided that it satisfies the respective conditions (Takahashi, 2017). The Model Law does not, however, cover cryptocurrencies. Separate legislation will be required to set out the conditions under which blockchain-based tokens representing securities (cryptosecurities) can be treated as securities.