

Antonio Bela

Summary of  
the  
dissertation on the topic

**Loans in crypto and alt coins in the civil law - The technologisation of the legal credit business by crypto and alt coins on the basis of blockchain technology and its legal challenges using the example of the Ethereum system and at the same time a classification of the (coin-)e-money regarding legal credit business**

The thesis examines the applicability of the credit agreement provisions of the GERMAN CIVIL CODE to crypto and alt coins and takes the Ethereum system as an example for the technical standard.

I. After an introduction in Part 1 the thesis begins in Part 2 with an explanation of the Ethereum system – which is considered less than the Bitcoin system – regarding its structure and functions in order to define the technical standard. In particular, the production of blocks, crypto coins and alt coins is discussed. Detailed questions on hashing and smart contracts are also dealt with. The findings from this section show the considerable difference between crypto and alt coins in preparation to answer questions on their legal classifications.

II. The legal analysis begins in Part 3 and represents the longest part of the work.

In section A. and section B. preliminary questions are discussed regarding the applicability of German law according to the CISG and ROME I-VO, the concept of money under civil law, the legal definition of e-money and the legal classification of coins. The discussion regarding the legal definition of electronic money and the legal classification of coins is given special attention at this point. In defining e-money the approach is taken that the condition under which coins should be treated as e-money are to be emphasized instead of simply citing characteristics which lead to a failed classification of e-money. The reason for the specific in-depth analysis is the condition "claim" which is to be interpreted within the meaning of § 1 (2) sentence 3 ZAG.

As for the legal classification of the coins, a distinction between crypto coins and the several types of alt coins is made in order to point out essential differences for the legal classification which is highlighted in Part 2. The current discussions in the literature and jurisdiction on the legal classification of crypto coins – Bitcoins in particular – as units of account and securities are considered and led to a mediating result for crypto coins and alt coins. The findings from this section show that in principle coins can be e-money and are otherly embodied objects which are non-standardized in the GERMAN CIVIL CODE.

In section C. the civil-law concept of loans is critically questioned and interpreted in accordance with the corresponding Directive. Different constellations of credit agreements in their encounter with crypto and alt coins are given in order to structure the further analysis. Subsequently, the study discusses the applicability of § 488 GERMAN CIVIL CODE to bank money, foreign currencies and electronic money in comparison to crypto coins and alt coins. The analysis of the applicability of § 488 GERMAN CIVIL CODE distinguishes between the

individual obligations under § 488 (1) sentence 1, (1) sentence 2 and (2) GERMAN CIVIL CODE so that application difficulties could clearly emerge. The findings from this section show that the concept of money in § 488 (1) sentence 1 GERMAN CIVIL CODE does not cover coins which are not money such as cash, bank money or electronic money. On the basis of the connection between the given pursuant to § 488 (1) sentence 1 GERMAN CIVIL CODE and the returned pursuant to § 488 (1) sentence 2 GERMAN CIVIL CODE coins are also excluded insofar that they are not legally considered money. Only the interest of § 488 (2) GERMAN CIVIL CODE could be paid in coins.

In the further course of the analysis the provisions of §§ 491, 506, 700 and 607 GERMAN CIVIL CODE and their applicability to coins will be examined in detail. The provisions on consumer credit are interpreted in accordance with the Directive on which basis the applicability to objects other than money is reasoned. The applicability of the provision § 700 GERMAN CIVIL CODE is rejected due to the divergent obligation structure for coin credits. The applicability of the provision pursuant to § 607 GERMAN CIVIL CODE is restricted to security tokens as securities only. The question of the effective creation of coins as collateral for the credit agreement is discussed subsequently.

At the end of this section final considerations are made in order to fully apply the provision of § 488 GERMAN CIVIL CODE on coins. The discussion in the tax law literature on coin lending is considered and the "lending" of coins as a loan is distinguished from renting. A contractual constellation is then proposed consisting of a loan agreement and a "corresponding agreement". The failure of this constellation indicates that a direct application of § 488 GERMAN CIVIL CODE is ultimately ruled out. The solution is to be sought via a contract sui generis in order to avoid an arbitrary application of § 488 GERMAN CIVIL CODE to be restricted to only a few coins. The findings of the entire section are presented again verbally and graphically at the end.

**III.** In Part 4 the question is raised whether the GERMAN CIVIL CODE needs to be revised due to the difficulties in its application. It is assumed that the coin credit agreements firstly have to assert themselves in practice and that a reactive behavior of the legislator is indicated.

**IV.** In Part 5 the most important findings of the analysis are summarized and are led to a conclusion.

**V.** In the annex a glossary of essential terms and an in-depth technical description of the synchronization process of the Ethereum system is presented.