

Cryptocurrency Raises Conventional And Novel R&D Questions

by Nathan J. Richman

Potential application of the research credit to cryptocurrencies like bitcoin could involve both the conventional issues inherent in new software development and novel questions raised by the process of mining.

Bitcoin's recent explosive growth — the value of one bitcoin in 2017 started around \$1,000 and reached a high of more than \$19,000 in December, before stumbling in recent months — raises the prominence of questions about how new virtual currency technology will interact with existing tax rules. For example, how will cryptocurrency development and mining be treated under the section 41 research credit?

Douglas Norton of Morgan, Lewis & Bockius LLP said the general rules for software should apply to the development of software related to cryptocurrencies, including the question whether any specific piece of software is for external or internal use.

Another question regarding the external-internal issue is just what the taxpayer plans to do with the software to make money, Norton said. Some situations, like selling the actual software, could clearly support the credit, while others involving creation of a system infrastructure could run into the internal-use software restrictions, he said.

Scott Hamilton of CohnReznick LLP said the coding to create a new cryptocurrency could satisfy the research credit requirements for software, whereas efforts concerning regulatory approval and business uncertainty questions will not. Trying to persuade national and state governments or the public to accept a specific currency is not the type of activity that will satisfy the research credit rules, he said, drawing a comparison with attempts at regulatory approval of drugs.

The key is employees writing code, according to Hamilton. Even though some virtual currencies have been associated with huge increases in value, he said any research credit will be limited to expenditures — primarily wages.

"The engine behind the R&D credit is employees. It's basically a jobs credit," Hamilton

said. In other words, it takes more than a handful of employees to generate a substantial research credit, even if those few are creating huge value in the end, he said.

Hamilton also highlighted the requirement that creditable research activities take place in the United States.

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The expansion of the research credit to allow start-up companies to apply the credit to payroll tax liabilities under the 2015 tax extenders law might present another opportunity in a very new sector. Bitcoin was introduced in 2009. The payroll expansion — section 41(h) — defines start-ups as having less than \$5 million in gross receipts for the tax year and no gross receipts from before the five-tax-year period ending on the relevant tax year.

Norton said the ability to hold rather than sell a cryptocurrency could raise interesting questions for the application of the gross receipts test. The question is whether receiving or creating a cryptocurrency would constitute a receipt for purposes of this test, or if the property must first be disposed of, he said. In the extreme case, a taxpayer might never sell some of its holdings, he added.

Mining Blocks

Virtual currencies based on blockchain technology generally involve an activity known as “mining.” Miners solve incredibly complex math problems using computer algorithms to add blocks to the blockchain, with the first miner to solve the problem receiving some of the currency as a reward. This process involves a huge amount of computing power, and thus electricity.

The complexity of the underlying math problem might have some relationship with the section 41 resolution of uncertainty requirements. Reg. section 1.41-4(a)(3) clarifies section 41(d)(1)(B)'s general requirement that creditable research be undertaken to discover technological information to include attempts at eliminating uncertainty. The high threshold of innovation test

for internal-use software includes a substantial uncertainty requirement.

Hamilton said there may be an opportunity for taking the research credit for development efforts related to mining, but unless the company has many employees allocated to the task, any credit generated “may not move the needle.” The research credit is usually used for developing new products, improving manufacturing processes, or software development, he said.

Norton said that while mining raises an interesting question regarding the section 41 uncertainty requirements, just because a problem is hard does not mean it will fit those requirements. “Some problems are hard because they require a lot of brute force,” he said.

Further, the special rules for utility charges under reg. section 1.41-2(b)(2) could also limit the size of any credit if mining activities did qualify for the research credit, Norton said. Only extraordinary and additional expenditures for utilities like electricity would qualify, he said, pointing to the regulations' mention of high-energy equipment such as lasers.

Work on designing a floor plan layout, a cooling system, or a server software architecture sounds like it could involve more uncertainty than the computational efforts, Norton said.

Who's Asking?

Norton said his firm has not yet heard any inquiries about applying the research credit to virtual currencies. That is mostly because of the novelty of the issues, but activities occurring offshore and thus being ineligible is another likely contributor, he said.

Hamilton said that while his firm has had some cryptocurrency developers as clients, those clients have not asked about the research credit, possibly because of the novelty of cryptocurrencies. ■