

The Merge – CCA confirms that Protocol Upgrade from PoW to PoS is not a Taxable Event

By Philipp Behrendt

The IRS Office of Chief Counsel issued Chief Counsel Advice (“CCA”) 202316008¹ last Friday regarding the tax consequences of holding a native token to a blockchain distributed ledger that is undergoing a protocol upgrade.

I. What is a CCA?

Before we jump into the merits of the CCA, just a few words to what a CCA actually is.

A CCA is a legal opinion issued by the IRS Chief Counsel's Office. It serves as internal authoritative guidance on how to interpret and apply complex tax laws and regulations. While CCAs are binding within the IRS and can be relied upon by taxpayers in their compliance efforts, it is important to note that they are not binding on taxpayers or the courts as they do not carry the same legal weight as court decisions, statutes, regulations, and in some instances, even Revenue Rulings. Nonetheless, they provide valuable insight to taxpayers and tax professionals regarding both tax planning and reporting positions when submitting tax returns.

II. What does this CCA say?

CCA 202316008 addresses two main issues:

1. Does a taxpayer who holds cryptocurrency realize gain or loss as a result of a protocol upgrade?
2. Does the taxpayer have an item of gross income as a result of a protocol upgrade?

The conclusion reached in the CCA is that the taxpayer does not realize gain or loss on their cryptocurrency holdings as a result of the protocol upgrade, and they do not have an item of gross income as a result of the protocol upgrade.

The CCA focuses on a taxpayer, referred to as T, who holds 10 units of cryptocurrency, referred to as C, which is native to a distributed ledger called K, and provides the following descriptive facts:

On Date 1, T purchases 10 units of C and stores the private keys in an unhosted wallet. On Date 2, K undergoes a protocol upgrade that changes its consensus mechanism from proof-of-work to proof-of-stake. After the protocol upgrade, K's protocol requires that transactions be validated and new blocks be added to the blockchain exclusively through the proof-of-stake consensus mechanism. The protocol upgrade does not affect the transaction history of any blocks prior to Date 2, and T continues to hold the same 10 units of C. T does not receive any cash, services, or additional units of C as a result of the protocol upgrade.

The CCA next provides an analysis of the relevant tax laws and regulations, including the definition of digital assets, the treatment of convertible virtual currency as property, and the rules for the computation and recognition of gain or loss under section 1001 of the Internal Revenue Code (IRC).

¹ <https://www.irs.gov/pub/irs-wd/202316008.pdf>.

Under section 1001 of the IRC, an exchange of property is a realization event only if the exchange results in the receipt of property that is materially different from the property transferred. Properties are considered material different under section 1001, if they represent legal entitlements that are distinct in kind or extent.² In this case, the CCA concludes that T does not realize gain or loss on their 10 units of C as a result of the protocol upgrade because the units of C remain unchanged following the upgrade, and T continues to hold the same 10 units of C.

The CCA also concludes that T does not have an item of gross income under section 61(a) of the IRC as a result of the protocol upgrade. Section 61(a) defines gross income as all income from whatever source derived, including gains from dealings in property. However, the CCA determines that there is no undeniable accession to wealth or clear realization event for T as a result of the protocol upgrade, and therefore, T does not have an item of gross income.

Based on the analysis and conclusions reached in the CCA, taxpayers holding cryptocurrency should be aware that a protocol upgrade that changes the consensus mechanism of a distributed ledger may not trigger the realization of gain or loss on their cryptocurrency holdings, and may not result in the recognition of gross income. This information can also be valuable for CPAs who advise taxpayers holding cryptocurrency, as it provides clarity on the tax treatment of protocol upgrades and helps them accurately report cryptocurrency transactions on their tax returns.

III. What is the takeaway from this CCA?

This CCA was almost certainly triggered by a real-world event from the previous tax year: The Merge. The Merge was the Ethereum blockchain's transition from proof-of-work (PoW) to proof-of-stake (PoS).³

Years ago, Ethereum developers proposed the transition from PoW to PoS as part of Ethereum 2.0 upgrade, which aimed to address scalability, security, and sustainability concerns of the Ethereum blockchain. From 2018 to 2020, Ethereum developers and researchers worked on designing and developing the Beacon Chain, which would serve as the PoS consensus mechanism for Ethereum 2.0. This involved rigorous research, design iterations, and extensive testing to ensure the security and efficiency of the new system.

In December 2020, the Beacon Chain was launched as the first phase of Ethereum 2.0.⁴ The Beacon Chain pioneered the PoS consensus mechanism for ETH, in which validators would replace miners in the creation and validation of new blocks.

However, in order to ensure error-free operations on one of the largest blockchains, the Beacon Chain did not take over the Ethereum state until it had been thoroughly tested.

Following the Bellatrix consensus-layer network upgrade,⁵ the Paris upgrade⁶ finally transitioned the executive layer from PoW to PoS on September 15, 2022. The entire PoW chain basically merged onto the Beacon Chain. The PoW chain's ETH was locked and bridged to the Beacon Chain.

² See *Cottage Savings Assn. v. Commissioner*, 499 U.S. 554, 564-565 (1991).

³ For this and following upgrades (Shanghai and Sharding), see <https://ethereum.org/en/roadmap/merge/>.

⁴ See <https://ethereum.org/en/roadmap/beacon-chain/>.

⁵ See <https://ethereum.org/en/history/#bellatrix>.

⁶ See <https://ethereum.org/en/history/#paris>.

While this CCA is exciting for the crypto community, the tax world should be reminded of Revenue Ruling 2019-24, as in contrast to a CCA, a Revenue Ruling is considered binding on the IRS and taxpayers for the specific issues and periods covered in the ruling. Rev. Ruling 2019-24 explained that if a distributed ledger undergoes a protocol change resulting in a permanent diversion from the legacy ledger to the new ledger (“Hard Fork”), a taxpayer does receive gross income if the taxpayer receives, as an airdrop, units of a new cryptocurrency.

This CCA almost certainly concludes that the Merge did not result in a new token airdrop. The PoS ETH is an unaltered version of his PoW token. To put it another way, the Merge is "just" a soft fork, not a hard fork. Thus, the CCA’s conclusion, which at first glance may seem inconsistent, is actually consistent with the Revenue Ruling.

IV. A word of caution

Having said that, a word of caution is in order. Tax implications of a change in the consensus mechanism can arise at various stages, including not only during the change itself, but also in subsequent transactions involving the newly created tokens or coins as a result of the change.

Everyone should be aware that the Merge had a second leg. A small and vocal group of PoW enthusiasts launched an ETHPoW alternative on their mainnet shortly after the Merge. The native token is ETHW, which forked from the upgraded ETH blockchain. Taxpayers who held ETH at the time of the Merge were airdropped ETHW.

These airdrops as a result of the PoW hard fork fit right into the Rev. Ruling 2019-24 narrative and are likely to be treated as taxable events.

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