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Taxation of Cryptocurrency Hard Forks

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Tax Enlightenment: Taxation of Cryptocurrency Hard Forks

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Background on Cryptocurrency

Cryptocurrency(CC) is a digital, decentralized, open source asset with its value entirely driven by market forces. CC holds no intrinsic value due to an absence of any asset backing. CCs such as bitcoin and altcoins (Ethereum, Dash, Monero, Zcash, etc.) are significantly different from traditional currencies such as the Euro and U.S. dollar. Traditional currency is a legal tender with a central bank backing and is generally globally accepted as a medium of exchange.

Transactions in cryptocurrency are recorded in a distributed ledger through a series of cryptographical blocks called Blockchain, a robust technology which makes it impossible to alter any recorded transaction.

CCs are stored in digital wallets and can be used to buy/sell via transactions over a peer to peer network. When an exchange takes place over a peer to peer network, the record of transactions is maintained between user addresses and not the actual users. A bitcoin address is an alpha-numeric code called a 'public key'. Each public key has a corresponding private key, which needs to be protected and stored safely by the user. The public key is used to receive bitcoin while the private key is to send bitcoin. When a user's wallet is hosted on a third-party platform such as an exchange, the user doesn't have any control over the wallet since the private key of the wallet is held by the exchange. However, this does not imply that the exchange is manipulating the user's fund. The exchange manages the user's wallet and executes the transactions only when it receives the authorization from the user.

CCs such as bitcoin and Ethereum are primarily obtained through 'mining', which involves solving complex mathematical algorithms on powerful computers. Once in circulation, it can be purchased from dedicated exchanges such as Coinbase and GDAX, or can be received as a payment for goods or services.

Cryptocurrency also comes into existence through an Initial Coin Offering (ICO)[1] or through *a hard fork.*

What is a Hard Fork?

As per the Safe Harbor for Taxpayers with Forked Assets Act of 2018 [2] "hard fork means, with respect to any convertible virtual currency, any material change in the shared digital ledger which is used to verify by consensus transactions in such currency if such change results in the maintenance of independent shared digital ledgers with respect to such currency."

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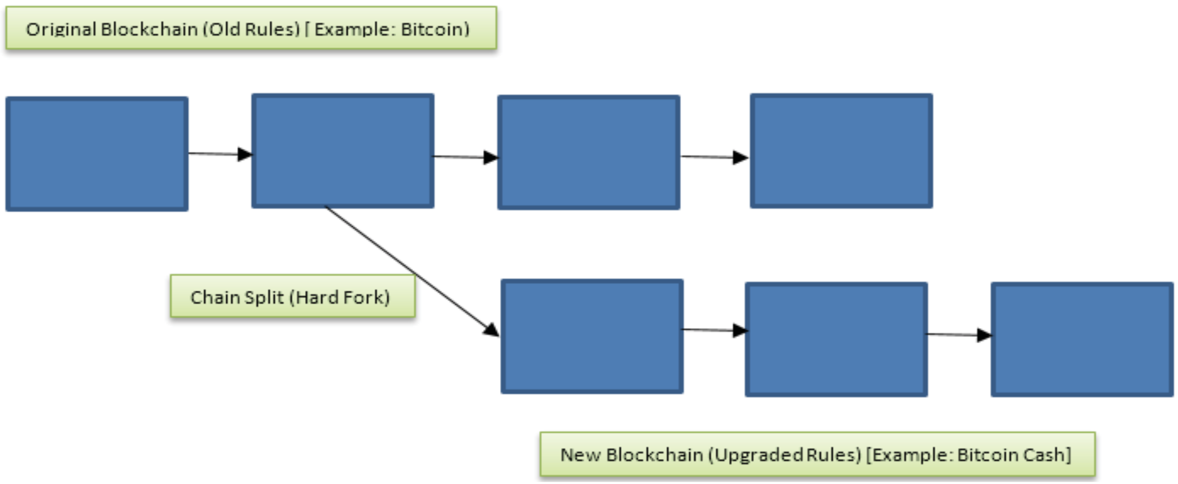
[1] ICO is funded by investors to develop a blockchain, digital tokens or a currency. According to the *Bitcoin Market Journal*, August 6, 2018, ICOs' raised $13 billion; https://www.bitcoinmarketjournal.com/biggest-icos-roi/.

[2] Rep. Emmer, Safe Harbor for Taxpayers with Forked Assets Act of 2018, H.R.6973, available at https://www.congress.gov/bill/115th-congress/house-bill/6973/text?format=txt&r=91.

In general, a hard fork (also known as a chain split) occurs when a blockchain network protocol is permanently upgraded by implementing major changes to the existing protocol, thereby creating a separate blockchain with a new cryptocurrency. Such a change in the protocol is not backward compatible and hence all the future transactions are operated with a different set of rules under the new protocol.



Source: Rachana Khandelwal

Usually, a hard fork takes place when the blockchain network participants (miners) arrive at a consensus that the software needs to be upgraded for reasons such as to increase the scalability of a block size, make the blockchain more efficient, lower the transaction costs or make the blockchain robust and immune from potential security breaches.

The new blockchain retains the pre-forked transaction history of the owners of the coins. However, due to incompatibility in the software, a transaction that is accepted by the new protocol is rendered invalid on the old one and is not accepted by the non-upgraded nodes in the network.

In 2016, Ethereum went into a hard fork in Ethereum Classic (old) and Ethereum (new) to improve their broken blockchain network. The old blockchain was subject to hacking and resulted in the financial loss of $64 million.[3] This led to a launch of new improved software which tightened the security to prevent such losses in the future.

Bitcoin has undergone several hard forks such as Bitcoin XT (December 2014), Bitcoin Classic (February 2016), and Bitcoin Cash (August 2017).[4] So far, the most successful bitcoin blockchain

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[3] Jonathan Ore, How a $64M hack changed the fate of Ethereum, Bitcoin's closest competitor, CBC News, August 28, 2016, available at https://www.cbc.ca/news/technology/ethereum-hack-blockchain-fork-bitcoin-1.3719009.

[4] Nathan Reiff, A history of Bitcoin hard forks, April 25, 2018, available at https://www.investopedia.com/tech/history-bitcoin-hard-forks/.

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split is the Bitcoin Cash owing to its wide acceptance by the cryptocurrency users and ranked fourth largest by market capitalization of approximately $9 billion.[5]

Tax Treatment

In March 2014, the IRS provided general guidance through Notice 2014-21[6] to treat cryptocurrency as 'property' for federal tax purposes. Thus, the tax rules applicable to a property transaction are also applicable to the transactions undertaken using CC. However, since 2014 there has been a significant transformation in the use and operation of cryptocurrency, which was originally viewed as an asset obtained by mining or purchased from a dedicated exchange.

In 2017, the hard fork of bitcoin into Bitcoin Cash presented an altogether a new challenge in the tax treatment of a newly obtained currency via chain split. The IRS has been silent on the tax treatment of a hard fork, perhaps because of the subtleties involved in determining the point of taxation for such events. As mentioned above the valuation of the forked coin may be a challenging aspect given the unpredictable frequency of a hard fork. In addition, the nature and newness of a hard fork has no existing counterpart in existing transactions to aid in identifying any obvious tax treatment.

Character of Income

A. Hard Fork as Ordinary Income

Per IRC section 61(a), under general tax principles, gross income includes "all income from whatever source derived," except as otherwise provided.[7] Treasury Regulations §1.61-1(a) further explains it to include income realized in any form such as money, property or services.

In *Commissioner v. Glenshaw Glass*, the U.S. Supreme Court further broadened the interpretation of IRC 61(a) and explained, income as a "taxable income when its recipient has such control over it that, as a practical matter, he derives readily realizable economic value from it.[8] The Court emphasized that the determinative factors of gross income include- a) undeniable accession to the wealth, b) clearly realized, and c) complete dominion over such income.

Application of these three factors to a hard fork, produces the following analysis.

a) Undeniable accession to the wealth
   In *Haverly v. U.S.* [9], the court determined that the taxpayer's receipt of unsolicited textbooks, and subsequent claiming of a charitable tax deduction upon donation of such textbooks constituted an accession to wealth. In the case of a hard fork, the forked coin is an economic gain to the taxpayer because of the taxpayer's holding of the original coin. The taxpayer generally receives an equal number of forked coins as the original coins held in their wallet at no cost. In substance, the taxpayer is in receipt of free property representing an increase

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[5] Top 100 cryptocurrencies by market capitalization available at https://coinmarketcap.com/coins/ (as of August 22, 2018).
[6] Notice 2014-21, CB 938 available at https://www.irs.gov/irb/2014-16_IRB#NOT-2014-21.

[7] Code Section 61(a).
[8] Com. v. Glenshaw Glass Co, 348 US 426 (1955).
[9] 513 F. 2d 224 (7th Cir., 1975).

in the wealth of the taxpayer. However, the value of such property at the time of hard fork may not be determined and might be viewed as no value at the time of creation. In addition, the new coin can also be viewed similarly to a stock split (although the new coin is different), in that the coin emerges from the existing coin.

The hard fork of bitcoin resulting in the split of bitcoin and creation of a new forked coin called Bitcoin Cash. This represented unsolicited property bestowed upon the holder of a bitcoin. Arguably, the fact that the Bitcoin Cash is freely available for use by the taxpayer satisfies the factor of 'undeniable accession to the wealth'. While a market might emerge for the coin, arguably, at the moment of its creation, it had no value separate from the original coin.

b) Clearly realized

Taxpayers' entitlement to the forked coin reflects their ability to enter into a transaction using the forked coin. The income is said to be clearly realized when it is actually or constructively received. The doctrine of constructive receipt is explained under Treasury Reg. §1.451-2(a). The regulation stipulates that income is realized when the taxpayer has a control over that income whether or not it is actually received by the taxpayer. However, in the case of a hard fork, this may or may not be satisfied due to two categories of wallet—custodial and non-custodial.

i) Custodial Wallet

A user owning cryptocurrency in a custodial wallet, such as an exchange, may not be able to claim the forked coin unless the exchange recognizes and supports it. In August 2017, prior to the bitcoin hard fork, Coinbase, a cryptocurrency exchange notified its bitcoin customers that it would not support Bitcoin Cash and the users would not be able to access Bitcoin Cash from their wallet.[10] In such a case, the income received was substantially restricted and legally controlled by the custodian of the wallet and it might not be construed as a constructively received unless the exchange allows the user to access it.

ii) Non-custodial wallet

A non-custodial wallet does not involve any third party, and the user exercises complete control over the wallet. Thus, the user is said to constructively receive income as soon as the forked coin appears in his wallet.

Hence, the unconditional and unrestrictive access to forked coins such as Bitcoin Cash or Ethereum received by the taxpayer as a virtue of being an owner of bitcoin or Ethereum Classic, might be viewed as a realization of income at the time of the hard fork. However, as noted earlier, the coin might have a value of zero at that time.

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[10] "When will Coinbase exchange Accept Bitcoin Cash," BitcoinExchangeGuide available at https://bitcoinexchangeguide.com/coinbase-exchange-accepts-bitcoin-cash-bch/.

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c) Complete dominion
A taxpayer is said to have complete dominion over income when the taxpayer is able to exercise legal control over it. A cryptocurrency user holding a custodial wallet hosted on a third-party platform such as Coinbase establishes legal control over the forked coin only when unconditional and unrestricted access is allowed. On the other hand, a user holding cryptocurrencies in a non-custodial wallet might be considered as having complete dominion as soon as the forked coins appear in the wallet. Again though, there remains the issue as to the value of the forked coin and whether the wallet holder has done anything to exercise control over the new coin.

The above three-factor analysis is crucial in determining whether the forked coin obtained is income. However, there are significant practical challenges when a user's wallet is hosted by a third-party platform such as Coinbase. In August 2017, Coinbase was apprehensive of treating Bitcoin Cash as a legitimate currency due to the security risks to digital assets.[11] In this case, the private key of a user's wallet was held with Coinbase and therefore the user could not access Bitcoin Cash unless Coinbase allowed them to do so. This brings a severe restriction on the user along with the uncertainty based on the third party's decision. In such situation, a realization event is delayed, and the price may not be accurately assessed due to a highly volatile cryptocurrency market.

B. Hard fork treated as a growth in an investment

Can the forked coin be viewed as a dividend paid on the original coin, which is treated as property per Notice 2014-21? In *Eisner v Macomber*[12]*,* the Supreme Court held that a stock distributed as a dividend is not income. The Court observed that a "stock dividend is nothing, but a piece of paper received by the stockholder of the company and the stockholder has received nothing out of company's assets for its separate use and profit." Further, the Court emphasized that "the stockholder is subject to the business risks of the company which may result in wiping out the entire investment of the stockholder."

Applying this analogy to a hard fork, the forked coin can be construed as a stock dividend received by the user resulting in an increase in the number of coins, but not an increase in value. In addition, the original coin is subject to operational and security risks[13] like the business risks of a company distributing stock as a dividend.

[11] "When will Coinbase exchange Accept Bitcoin Cash," BitcoinExchangeGuide available at https://bitcoinexchangeguide.com/coinbase-exchange-accepts-bitcoin-cash-bch/.

[12] Eisner v. Macomber, 252 U.S. 189 (1920).

[13] Samson Mow, "The Bitcoin Cash Fork Was a Dangerous Trick," fortune.com available at http://fortune.com/2017/08/07/bitcoin-cash-bch-hard-fork-blockchain-usd-coinbase/.

C. Valuation of the forked coin

Assigning a value to the new currency is crucial and the most challenging aspect in the taxation of a hard fork. If the IRS decides to treat the forked coin as ordinary income, then the basis possibly could be the price at the time of launch, i.e. the opening price.

In its comment letter (May 2018) to the IRS, the AICPA suggested that the price discovery at the time of a fork can be considered as near zero and therefore for tax purposes, it should have a zero basis and result in no income at that time.[14] A similar position was offered by the American Bar Association's (ABA) Section of Taxation in its comment letter (March 2018) to the IRS suggesting the valuation and the tax treatment of forked coin.[15]

The rationale behind assigning a zero value is the uncertainty in the survival of the new coin and the high volatility of the cryptocurrency market. Also, as discussed in the previous section, factors such as third-party support for custodial wallets delays the (constructive) receipt of the new coin.

Other countries on the hard fork

Australia

The Australian Tax Office (ATO) issued a guideline that taxpayers do not derive any ordinary income or capital gain when they obtain a new cryptocurrency as a result of the hard fork in the existing blockchain. Further, if the taxpayer held the cryptocurrency as an investment, the basis for the new cryptocurrency would be zero for the purpose of computing capital gain. If a cryptocurrency is held for a sale or exchange in a business, the new cryptocurrency obtained during a hard fork would be treated as a trading stock, and it must be accounted as income at the end of the financial year. [16]

United Kingdom

Her Majesty's Revenue and Customs (HMRC) treats cryptocurrency as an asset and therefore a gain on the sale or use of cryptocurrency is a capital gain. HMRC has specified in its internal manual on Capital Gains that the basis of the new cryptocurrency arising as a result of a chain split should be traced to the cost of the original asset. Thus, the acquisition cost of the old

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[14] AICPA's comment letter to the IRS, May 30, 2018, available at https://www.aicpa.org/content/dam/aicpa/advocacy/tax/downloadabledocuments/20180530-aicpa-comment-letter-on-notice-2014-21-virtual-currency.pdf.

[15] Chair. Karel L. Hawkins, American Bar Association Section of Taxation, Tax Treatment of Hard Forks for the Taxable Year 2017, March 19, 2018, available at https://www.americanbar.org/content/dam/aba/administrative/taxation/policy/031918comments2.authcheckdam.pdf.

[16] Australian Tax Office, Tax Treatment of cryptocurrencies in Australia-specifically Bitcoin, Chain Splits, available at https://www.ato.gov.au/General/Gen/Tax-treatment-of-crypto-currencies-in-Australia---specifically-bitcoin/?anchor=Transactingwithcryptocurrency#Transactingwithcryptocurrency.

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cryptocurrency would be apportioned between the old and the new cryptocurrency obtained in the course of a hard fork.[17]

Germany

In a Cryptotax seminar hosted by the Frankfurt School of Finance & Management in March 2018, the school suggested treating a hard fork similar to stock splits and consider the market value at the time of the split as a cost of acquisition of the new cryptocurrency.[18]

Conclusion

The evolution of blockchain technology and the cryptocurrency market has given rise to an increase in tax complexities. There are diverse interpretations of a chain split around the world and as a consequence, the tax treatment of hard fork varies between countries. Not many countries have issued guidelines on chain splits and such an event needs to be interpreted based on the particular facts and circumstances and that country's tax law.

As more and more currencies come into existence through hard forks, it is going to be challenging for the tax authorities in understanding, designing and regulating the tax treatment.

The character, timing and the amount of income are difficult to identify and define within the tax framework. Therefore, these aspects need to be carefully evaluated to make a tax law for a complex subject like a hard fork. Specific guidance is also needed to better ensure consistency of how owners experience a hard fork of CC treat it for tax purposes.

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[17] HMRC Internal Manuals, Capital Gain Manual, Introduction, and Computation: chargeable assets: intangible assets: cryptocurrencies, last updated May 9, 2018, available at https://www.gov.uk/hmrc-internal-manuals/capital-gains-manual/cg12100.

[18] Norbert Gehrke, German Income Tax on Virtual Currencies, Medium.com, March 11, 2018 available at https://medium.com/@norbert.gehrke/german-income-tax-on-virtual-currencies-18bc35990457.