Income, from Whatever Exchange, Mine, or Fork Derived: The Basics of U.S. Cryptocurrency Taxation[1]

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In this article, intended as an introduction to the interesting and myriad tax issues arising in the world of cryptocurrency and blockchain technology, we focus on certain U.S. federal income tax consequences of cryptocurrency transactions. The following is a very high-level discussion of the consequences generally applicable to U.S. individual holders of cryptocurrencies and will not be applicable to all taxpayers depending on their particular situation. Moreover, as there is limited official guidance addressed to cryptocurrency transactions, this article relies largely on predictions of how general tax principles may be applied to cryptocurrency transactions.

1. Is It Property or Is It Currency?

A "cryptocurrency," generally, is a digital or virtual currency that functions as a medium of exchange by using encryption in lieu of a centralized issuing or regulatory authority to verify transactions and to manage the issuance of new coins. A "coin" is a unit of value associated with a cryptocurrency—the crypto equivalent of a U.S. dollar.

Although it might seem an academic question, the distinction between property and currency is critical to understanding U.S. federal income taxation of cryptocurrencies. Generally, when a U.S. individual or business uses cash to purchase property, the holder of the cash is not taxable on any gain or loss inherent in the cash used for the purchase (*i.e.*, changes in the value of the U.S. dollar between the time the cash was earned or otherwise acquired by the holder and the time of the sale). Gain on nonfunctional foreign currency exchanges (*i.e.*, currencies other than the main currency used by a trade or business) is generally ordinary income and, therefore, taxable under current law at marginal rates up to 37 percent (or 40.8 percent, factoring in the net investment income tax[3]). In contrast, gain or loss on the sale of property can constitute either ordinary income or capital gain, depending on whether the property sold is or is not a capital asset. If a capital asset, the reduced long-term capital gains rate (up to 23.8 percent under current law, including the net investment income tax) could apply if the asset sold was held for more than 1 year.

There are compelling arguments for treating cryptocurrency as money or, alternatively, as property, the theoretical merits of which are beyond the scope of this article. For present purposes, the opinion that matters is that of the U.S. Internal Revenue Service (the IRS), and fortunately the IRS has given us some guidance. In Notice 2014-21,[4] the IRS declared that "convertible virtual currency," that is, virtual currency having an equivalent value in "real currency" (such as the U.S. dollar) is "property" for U.S. federal income tax purposes.[5] Therefore, the tax treatment of cryptocurrency transactions will generally follow the rules applicable to transactions involving noncash property.

Whether income realized on an exchange of property is ordinary or capital will generally depend on whether the property exchanged is a "capital asset" in the hands of the seller, which depends on the taxpayer's purpose in holding the property. Property held for investment purposes (*i.e.*, in anticipation of the property's appreciation over time) generally will be treated as a capital asset. The same type of property, if held as "inventory" of the taxpayer (*i.e.*, for sale to customers in the ordinary course of the taxpayer's trade or business), would not qualify as a capital asset. In other words, coins purchased and held by an investor would generally be a capital asset, whereas coins held for sale by a dealer in cryptocurrencies would not.

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2. How Is Income (or Loss) Calculated in a Coin Exchange?

In a transaction for cash

When cryptocurrency is purchased with U.S. dollars, the purchaser generally will take a tax basis in the coins equal to the amount of cash paid. Later, when the coins are sold to another party for U.S. dollars, the amount of taxable gain (or loss) on the sale is the difference between the original purchase price (*i.e.*, the holder's "tax basis") and the later sale price. As explained above, whether the taxpayer's gain or loss is capital or ordinary depends on whether the coin was a capital asset in the hands of the taxpayer (*i.e.*, whether the property was held for investment). If a capital asset, the applicable tax rate will depend on whether the coin was held for longer than a year.

In a transaction for property and/or services

Cryptocurrencies are considered a type of property other than money. Therefore, when coins are used to purchase other (noncash) property and/or services, the exchange is a property-for-property exchange (*i.e.*, a "barter" exchange). Generally speaking, when a taxpayer exchanges property for other property in a taxable sale, the amount "realized" by the taxpayer is the fair market value of the property received (measured as of the sale date). The amount of gain or loss realized by the seller is the difference between the amount realized and the seller's basis in the cryptocurrency used to make the purchase. The buyer would acquire a tax basis in the cryptocurrency received equal to its fair market value on the date of exchange.[6]

To illustrate by way of example, imagine that John, a U.S. individual taxpayer, purchased Bitcoin as an investment for its fair market value in cash in a single transaction dated November 8, 2015 (closing price reported on CoinDesk: $373.49). If exactly 2 years later, on November 8, 2017, John uses Bitcoin (closing price reported on CoinDesk: $7,458.79) to purchase a bag of mini-donuts for $5.00 from a donut shop in Austin, Texas, John would have taxable gain on the difference between the fair market value of the donuts ($5.00) and John's basis in the Bitcoin used in the exchange. Assuming that the CoinDesk closing price for Bitcoin represents fair market for the date of the transaction, in addition to empty calories, John would have taxable gain on his purchase of the donuts equal to approximately $4.75 [$5.00 × ($7,458.79 − $373.49)/$7,458.79 = $4.749]. Because John acquired the Bitcoin for investment and held it for more than 1 year before using it to buy donuts, John's gain would be taxed at the long-term capital gains rate. The donut shop would have gross receipts of $5.00 from the sale to John and would take a $5.00 tax basis in the Bitcoin received.

In an exchange of coins for coins

Under Notice 2014-21, an exchange of coins of one cryptocurrency for another type of cryptocurrency will, in most cases, be treated as a taxable sale. Similar to the treatment of the exchange of cryptocurrency for property, the amount of gain or loss realized on the sale is the difference between the taxpayer's basis in the cryptocurrency exchanged (usually the U.S. dollar value of whatever "real" currency was used by the taxpayer to purchase the cryptocurrency) and the fair market value of the cryptocurrency received as of the date of the exchange.

Prior to January 1, 2018, some taxpayers and practitioners took the position that cryptocurrency-for-cryptocurrency exchanges qualified as "like-kind exchanges" under section 1031 of the Code. In a like-kind exchange, tax on any unrealized appreciation in the currency relinquished in the exchange is deferred; the tax basis in the relinquished currency carries over to the replacement currency and the untaxed gain is preserved until a later disposition of the replacement currency for cash or other (non-like-kind) property. This question has been mooted for tax years beginning after December 31, 2017, as changes to the tax law enacted at the end of 2017 limit like-kind exchange treatment to real property transactions.[7] However, taxpayers entering into cryptocurrency-for-cryptocurrency exchanges prior to January 1, 2018, may want to consult their tax advisors as to the viability of the like-kind exchange reporting position.

Determining basis in coins exchanged

In order to calculate the amount of taxable gain or loss realized in a sale or exchange, a taxpayer must know its basis in the coins exchanged. Where a taxpayer acquires all of its coins in a single transaction, this should not be too hard to determine. Generally, the taxpayer's basis in each coin should equal the price paid for each coin—either the amount of cash received or the fair market value of the property relinquished in the exchange. If the taxpayer acquires several coins at the same time and later disposes of only a portion of

them, the taxpayer's aggregate basis in the coins would be distributed proportionately to each individual coin. For example, assume a taxpayer purchased 10 coins of currency X (X coins) for $10.00 in March 2015, and in March 2017 disposed of five coins for $25.00. The taxpayer's basis in the X coins exchanged would be $5.00, or $10.00 × 5/10. Its gain on sale would be $20.00, or the excess of $25.00 over its basis of $5.00. The taxpayer's remaining $5.00 basis would be allocated among the five X coins retained.

The determination of basis becomes more complicated (and less certain) where the taxpayer has acquired its coins in multiple transactions and at varying prices.[8] Returning to the previous paragraph's example, assume that the taxpayer does not dispose of its five X coins in March 2017 but rather acquires five additional X coins in August 2017 for $100.00 (or $20.00 each). In December 2017, when the market price of one X coin has decreased to $10.00 per coin, the taxpayer decides to sell five of its coins for $50.00 (or $10.00 each). If the taxpayer is treated as disposing of five of the X coins acquired in 2015, the taxpayer will have a gain of $45.00, or $50.00 less its basis of $5.00. If instead the taxpayer is treated as disposing of the five X coins acquired in August 2017, the taxpayer would have a loss of $50.00. Clearly, if the choice is left up to the taxpayer, it would prefer the latter outcome.

Under section 1012 of the Code, a taxpayer's basis in property sold is generally the cost of that property to the taxpayer, subject to certain adjustments. By default, this requires specific identification unless another basis accounting method is allowed by the Code or regulations.[9] Although Notice 2014-21 does not address basis accounting for cryptocurrencies, analogies can be drawn to other areas of the tax law. For example, Treasury regulations provide that a taxpayer disposing of stocks or bonds will be treated for tax purposes as disposing of its high-basis stocks or bonds first only if it is able to "adequately identify" the particular stocks or bonds delivered to the buyer (*i.e.*, by showing delivery to the buyer of certificates representing shares that were acquired on a particular date for a particular price).[10] If the taxpayer is not able to adequately identify the shares delivered, the taxpayer is treated as having sold the earliest-acquired shares first, known as the "first-in, first-out" or "FIFO" method, or in some instances may be eligible for average cost basis reporting (which essentially spreads aggregate basis evenly among the taxpayer's shares).[11]

If cryptocurrencies are treated for tax purposes as commodities rather than securities, the regulations governing tax basis in stock dispositions may apply to commodities by analogy.[12] The Commodity Futures Trading Commission (CFTC) has determined that Bitcoin and other cryptocurrencies are commodities.[13] While the CFTC's conclusion is not binding on the IRS, the IRS has looked to the financial world to determine the meaning of the word "commodity" as used in other provisions of the Code.[14] An alternative approach would be to apply the rules for determining basis in nonfunctional currency transaction. Regulations generally provide that the basis of nonfunctional currency withdrawn from a bank account may be determined using "any reasonable method that is consistently applied from year to year." Specific examples given are first-in, first-out, last-in, first-out, and pro rata. Although the IRS declined to classify cryptocurrency as currency in Notice 2014-21, and so the nonfunctional currency regulations do not apply to cryptocurrencies by definition, the IRS may apply similar rules by analogy.

Applying the stock rule to the X coin example above, if the taxpayer were able to adequately identify the X coins delivered to the buyer in the December 2017 exchange as those acquired in August 2017, the taxpayer would be treated as having sold the higher basis coins and would be able to claim a loss for tax purposes. Because all transactions are stored on the blockchain, adequate identification is theoretically possible if a taxpayer has direct control over the keys to its coin wallet and is sophisticated enough to select (and establish to the satisfaction of the IRS) what coins are transferred to the buyer. Adequate identification may be difficult if not impossible for a taxpayer holding its coins on a cryptocurrency exchange, as the exchange may not give users the option to select the particular coins transferred or provide the required evidentiary support. Another way to manage identification may be to hold each "lot" of coins (*i.e.*, group of coins acquired at the same time and at the same price) in a separate wallet or on a separate exchange.

If the stock rules do not apply, taxpayers arguably should be able to use FIFO or another reasonable method to determine basis in their coins exchanged by analogy

to the regulations applicable to nonfunctional currencies, provided that the method used is consistently applied and does not consistently result in high-basis units being disposed of first.[15] If the taxpayer in the example above were permitted to use the last-in, first-out method to determine its basis in the X coins sold in December 2017, it would presumably be required to apply this method to all of its cryptocurrency transactions.[16] Nevertheless, given the lack of IRS guidance on the subject, the safest approach may be to use specific identification, if this method is feasible (and if identification is supported by the user's cryptocurrency exchange).

A note on valuation

Assuming the cryptocurrency is both acquired and sold for cash, and adequate records are kept, the determination of any taxable gain or loss should be fairly straightforward. In contrast, if a taxpayer acquires coins by mining, or receives coins as payment for goods or services (or in exchange for other coins), determining the coins' fair market value as of the relevant testing date can be a significant challenge. In addition to volatile day-to-day trading prices (over the course of less than 3 weeks in November, the trading price of Bitcoin dropped as low as $5,857.32 before rebounding to a price over $10,000 on some Korean exchanges), cryptocurrencies generally lack a centralized trading platform (or, initially, *any* formalized trading platform), making it difficult to identify a single, U.S. dollar-denominated market price. Notice 2014-21 does not give further insight into how fair market value is determined, noting only that the taxpayer's determination must be made "in a reasonable manner that is consistently applied."

3. Are Forks Taxable?

Coin "splits" and "hard forks"

As explained above, exchanges of property for other valuable property generally results in taxable gain (or loss) equal to the difference between the fair market value of the property received and the taxpayer's basis in the property exchanged. Although this general principle also applies to exchanges of one cryptocurrency for another (*e.g.*, Bitcoin for Ethereum), it is not clear whether (or how) this principle applies where an entirely new cryptocurrency splits off from an existing cryptocurrency (*e.g.*, Bitcoin Cash and Bitcoin), also known as a "hard fork." A hard fork generally results from a change to the cryptocurrency's software, which produces two separate versions of the cryptocurrency's blockchain sharing a common history.[17] The Bitcoin/Bitcoin Cash hard fork resulted in each holder (i) receiving an amount of Bitcoin Cash nominally equivalent to its holdings of Bitcoin immediately before the fork and (ii) retaining its pre-fork Bitcoin. Although most people would agree that Bitcoin Cash has value (the trading price of a single coin topped $4,000 in December 2017), it is unclear when this value is "income" for tax purposes, the amount of income realized, and the tax character of this income.

Accession to wealth: the *Glenshaw Glass* approach

The most straightforward treatment, arguably, would be to treat the new coins received in a cryptocurrency fork as a taxable windfall (similar to lottery winnings) under the basic test for income set forth in *Commissioner v. Glenshaw Glass*:[18] it is an undeniable accession to wealth, clearly realized, over which the recipient has complete dominion and control (assuming that the recipient has access to the new cryptocurrency, discussed below). The result would be ordinary income to the recipient equal to the fair market value of the property received as of the date of receipt and without any reduction for the return of capital (*i.e.*, the recipient's basis in the cryptocurrency immediately before the split).

While sound as a matter of general tax principles, this approach presents significant practical challenges. Staying with Bitcoin Cash as an example, it is unclear when the initial recipients of Bitcoin Cash actually "realized" this income. Depending on where Bitcoin holders stored their Bitcoin, some recipients did not have (and could not get) the digital keys necessary to immediately access the Bitcoin Cash (and/or convert the Bitcoin Cash into actual cash), raising a question of "dominion and control" under the *Glenshaw Glass* test. Just as significant is the valuation difficulty. There was no readily available market for Bitcoin Cash until sometime after the split and, even then, trading prices varied considerably among the different exchange platforms. Although the initial value of the Bitcoin Cash distributed to Bitcoin holders was, nominally, equal to the value of the recipients' Bitcoin holdings, the values of the two cryptocurrency products quickly diverged as a separate market for Bitcoin Cash emerged. The uncertainty surrounding the moment of realization further complicates matters: given the market volatility of

cryptocurrencies, shifting the testing date for fair market value even a day or two can have a significant effect on the amount of gain realized.

No realization event: the stock dividend approach

Another approach would be to look at coin forks as analogous to dividends paid with respect to stock. Stock dividends and stock splits that do not result in a change in the recipient's proportionate ownership of the issuer are generally not taxable events under the Code.[19] Any built-in gain is deferred until the stockholder sells or otherwise disposes of its stock for money or other property. In contrast, the receipt of a *cash* distribution, or a distribution of other property (for example, securities of another corporation), is a taxable event and can result in ordinary income, return of basis, and/or capital gain to the recipient, depending on the particular circumstances. Although analogies can be drawn to coin splits, the current tax treatment of stock dividends is determined under statutory rules specific to distributions to stockholders; although cryptocurrencies are property, they are not currently treated as "stock" for tax purposes. Applying these statutory provisions to cryptocurrency distributions would probably require action from Congress, although IRS guidance may be able to apply similar treatment to cryptocurrencies by analogy.

Alternatively, the IRS could treat a cryptocurrency split as not a taxable event at all, if the converted currency is substantially identical to the property previously held by the taxpayer. Rather than recognizing gain at the time of the split, the unrealized gain inherent in the additional coins issued would be taxed when the coins are converted into cash or used to purchase property or services. Before the adoption of sections 305 and 306 of the Code (which today govern stock distributions), the Supreme Court in *Eisner v. Macomber*[20] considered the tax consequences of pro rata stock dividends, concluding that their receipt was not taxable because not a proper "realization" event. The payment of stock dividends did not mark a change in the value of the corporation or the shareholder's entitlement to or participation in the corporation's assets or profits.

This approach might make sense for a traditional split—for example, if each holder received additional coins of the *same* cryptocurrency but the aggregate exchange value remained exactly the same immediately after as immediately before the split. It is, however, difficult to maintain this argument in the case of the Bitcoin Cash hard fork, given that it actually resulted in the creation of a new cryptocurrency having unique characteristics, its own blockchain, and ultimately an independent trading value. There is also potential for value redistribution in a hard fork that would not be present in a pure split. Although all holders of Bitcoin nominally received an equivalent amount of Bitcoin Cash in that fork, not all holders had the digital keys to access the new coins and not all storage platforms supported the new currency. If the two currencies are viewed as sharing in the same underlying market capitalization, this means that some of the value of original Bitcoin shifted to Bitcoin Cash in the fork, resulting in a disproportionate gain to those with access and a corresponding loss to those without. In a decision subsequent to *Eisner v. Macomber*, the Supreme Court noted that while a proportionate distribution of new common shares conferring no new rights or interest in the issuer was not taxable, "where a stock dividend gives the stockholder an interest different from that which his former stock holdings represented, he receives income."[21] Under this test, the receipt of Bitcoin Cash appears to be income.

Taxability without liability: the zero value approach

The American Bar Association tax section, in an open letter (the ABA Letter), recommended that cryptocurrency received in a hard fork during the 2017 tax year be treated as a taxable event at the moment it is received, reasoning that a taxpayer's ability to use both the original currency and its "forked" progeny is an accession to wealth under *Glenshaw Glass* principles.[22] However, the ABA Letter also proposes that the value realized in the taxable event could be zero, which would result in no immediate tax liability (although the taxpayer's basis in the coin would be zero). Instead, when the forked coin was subsequently disposed of, the taxpayer would pay tax on the entire value of the cash property received in the exchange. If the taxpayer held its cryptocurrency as a capital asset, the gain on this subsequent disposition would be capital. The argument for treating the fork as a realization event, despite some taxpayers' limited access to either the new coins (*e.g.*, because the coins are hosted on an exchange that has not enabled access), is that a taxpayer could take affirmative steps to claim the new coins and is, therefore, in constructive receipt. The amount realized, however, is zero, because at the

moment the new coin is received it is not yet known if the new protocol will be adopted, whether a market for the coin will develop, or what the market price will be.

Treating the fork as a zero basis, taxable event has several advantages for taxpayers. First, having a taxable event bolsters the argument that the later gain on the disposition of the coin is capital: when a taxpayer holding the original coin as a capital asset acquires a forked coin, it acquires a new capital asset (albeit one with zero value). Second, a taxable event starts the clock on the 1-year holding period for long-term capital gain on the subsequent disposition of the forked coin. Last, the zero value, zero basis premise allows the taxpayer to defer any tax liability until a subsequent disposition of the coin.

Although the zero basis approach resolves the logistical problems of timing of realization and valuation of amount received, it leaves some questions unanswered as to general application. What happens in the case of a hard fork where only the forked coin survives and original coin falls into obsolescence? The expectation often in hard forks is that only one of the two resulting cryptocurrencies will survive. For example, in 2016, the core developers of Ethereum decided to implement a hard fork to correct a weakness in the existing Ethereum protocol[23] that had left it vulnerable to hacker attack. While the developers consulted the Ethereum community[24] in hopes of reaching a general consensus on the desirability of the hard fork, because of the decentralized nature of the Ethereum platform, the decision whether, post-fork, to participate in the original or the new version of Ethereum would ultimately be left to the particular stakeholders (*e.g.*, the miner, exchange, or platform). Ultimately, the majority of Ethereum users moved to the new Ethereum blockchain (which retained the name "Ethereum"), while approximately 15 percent stayed on the original blockchain (redubbed "Ethereum Classic). Within hours of the fork, Ethereum Classic was valued at 1/10 the value of Ethereum; while the disparity has grown, Ethereum Classic, nevertheless, currently trades at a higher price than pre-fork Ethereum.[25]

Should a taxpayer's basis in its pre-fork Ethereum carry over to the post-fork Ethereum, or has the taxpayer acquired a new capital asset with a zero basis? The answer depends on whether we regard the post-fork coin as a new capital asset simply because it exists on a new blockchain protocol, or whether we look to the intentions of the parties engineering the fork and the response by the community of stakeholders. If we follow the technical approach, it appears the taxpayer would have a new capital asset, a new basis (of zero), and a new holding period in its post-fork Ethereum. A disposition of Ethereum on the next day would result in short-term capital gain equal to the entire amount of cash or the value of other property received in the exchange. Even if the taxpayer could claim a capital loss on its legacy Ethereum Classic, depending on the taxpayer's holding period, this could be a long-term capital loss, resulting in a character mismatch (the long-term capital loss not fully offsetting the tax on short-term capital gain). On the other hand, if the taxpayer decides to retain its post-fork Ethereum and is able to claim an immediate capital loss on its Ethereum Classic, it could potentially receive a tax benefit without having realized an economic loss.

Although the Ethereum example underscores the weaknesses of a too-technical approach, the qualitative approach is problematic in its own way. It seems clear in hindsight that the Ethereum fork would result in the wide adoption of the new protocol, but this result was not inevitable or uniform. A small but significant minority maintained the original protocol, continuing to hold and to mine Ethereum Classic. It seems reasonable for these users to retain their basis in legacy (*i.e.*, pre-fork) Ethereum in their Ethereum Classic. As of this writing, there has been no IRS guidance published specifically addressing this issue, leaving considerable uncertainty for those recipients of the estimated $5 billion worth of Bitcoin Cash who have yet to file their 2017 tax returns.

4. Other Taxable Cryptocurrency Transactions

Cryptocurrency-denominated compensation

An employee who receives compensation denominated in cryptocurrency is subject to tax at ordinary income rates on the fair market value of the coins received. Additionally, cryptocurrency paid to an employee as compensation is generally treated as "wages" for employment tax purposes and is therefore subject to federal income tax withholding as well as unemployment and FICA taxes.[26] As the U.S. government does not currently accept tax payments in the form of cryptocurrency, a portion of

the cryptocurrency would have to be liquidated into cash before being remitted by the employer.[27] The employee would take a basis in the cryptocurrency received equal to the amount of income recognized upon its receipt. The employer would also have taxable gain to the extent of any appreciation in the cryptocurrency used to pay the employee's compensation (which would be offset by the employer's compensation deduction).

Currency "mining" activities

A taxpayer who acquires cryptocurrency as a result of "mining" activities (*i.e.*, the consumption of computer resources to verify and record cryptocurrency transactions on a blockchain ledger) will generally realize ordinary income for U.S. federal income tax purposes upon receipt of the mined coin equal to their fair market value on the date of receipt.[28] A miner can be viewed as performing a service for all other holders of the cryptocurrency; the service is compensated by a pro rata dilution of all other holders when a new coin is issued to the miner. Therefore, the miner's income will generally be ordinary. The miner's basis in the newly mined coin will equal the amount of income realized upon its receipt.

An individual taxpayer engaged in cryptocurrency mining as a trade or business (and not as an employee) will have to pay self-employment taxes on the fair market value of any cryptocurrency received but may be able to deduct or capitalize certain expenses (*e.g.*, the cost of electricity, computer equipment).

Worthless and abandoned coins

Taxpayers generally are able to deduct losses where investment property is lost or is permanently abandoned by the taxpayer.[29] The amount of the deduction would be the taxpayer's adjusted basis in the lost or abandoned coin (generally, its cost basis); if the taxpayer held the coin as a capital asset, the character of the loss would be capital.[30]

The worthless and abandoned property rules raise interesting timing questions when applied in the cryptocurrency context. For example, the loss or abandonment of a coin may occur where the taxpayer loses its private keys. Losing one's private keys is similar to losing cash; because of the anonymous and encrypted nature of the blockchain protocol, ownership cannot be recognized to any particular individual except through ownership of one's keys. For persons who store their private keys on physical hard drives or in "paper wallets," losing the hard drive or wallet can mean the loss of an entire fortune without any hope of recovery. In 2013, a Welsh man, James Howells, famously claimed to have lost his private keys to 7,500 Bitcoin after accidentally throwing away the hard drive on which they were stored. When the trading price of Bitcoin surpassed $17,000 per Bitcoin in December 2017, Howells sought (and was denied) permission from his local city council to dig up a local landfill in hopes of recovering the lost drive.[31] Had Howells been a U.S. taxpayer, he arguably would not have been able to claim a loss for the lost Bitcoin in 2013 or at any time prior to December 2017 (and then, only once appeals before the city council were abandoned and all rights in the coins relinquished).[32] A taxpayer generally must show an intent to abandon in order to claim a loss deduction for abandoned property, which requires, at a minimum, that the taxpayer cease effort to recover the lost coins and show additional affirmative steps to irrevocably relinquish ownership.[33] Because loss deductions are limited to the taxpayer's adjusted basis in the lost property (in Howells case, the amount of income reported by him in connection with his mining of the lost coins), the actual amount of any permitted deduction may be negligible.

An investor may also claim a loss deduction if its coins are stolen in a hacking attack or following physical theft of its private keys in the year when the theft is discovered.[34] While worthlessness may theoretically occur where a cryptocurrency is valued so low that that miners cease to expend the energy to verify transactions on the cryptocurrency's blockchain, it is not clear that a taxpayer would be able to claim a loss without an affirmative abandonment or some other taxable event.[35] Section 165(g), which allows taxpayers deductions for losses on worthless securities, adopts a narrow definition of "security" and is therefore unlikely to apply to cryptocurrencies.[36]

5. How Is Income from Cryptocurrency Transactions Reported to the IRS?

Gain (or loss) on cryptocurrency exchanges

As the IRS recently reminded taxpayers, U.S. taxpayers must report their gain and loss from Bitcoin transactions just as they would gain and loss from any other property

transaction.[37] Until the IRS designates cryptocurrencies as "specified securities" for U.S. federal income tax purposes, coin exchanges should not be required to issue Form 1099-B informing taxpayers of their gain or loss on brokered coin transactions.[38] Taxpayers who do not receive a Form 1099-B are, therefore, required to determine their tax basis in the coins they acquire and to keep track of this basis in order to calculate gain or loss upon later sale. Some coin exchanges may allow users to download a file of their account history so that they can track gains and losses for tax purposes. This amount is then reported to the IRS on Form 8949 and attached to the individual's tax return.

Some exchange platforms, such as Coinbase, have begun providing their users tax basis reporting information.[39] Third-party providers such as CoinTracking calculate taxable gain and loss for users based on information from past cryptocurrency transactions uploaded by users.[40] While the Coinbase tax basis report applies the first-in, first-out method to calculate gains and losses from cryptocurrency transactions, CoinTracking allows users to calculate taxable gain using a variety of basis accounting methods, including first-in first-out, last-in first-out, highest cost first-out, and lowest cost first-out.

De minimis exception

As a result of the IRS's decision to treat cryptocurrency as property, generally every exchange of cryptocurrency is taxable, even something as seemingly inconsequential for tax purposes as buying a cup of coffee with cryptocurrency or withdrawing cash from a Bitcoin ATM. In contrast, section 988 of the Code (governing exchanges of nonfunctional foreign currency) exempts up to $200 of exchange rate gain on personal use transactions conducted in foreign currency.[41] There have been efforts to introduce a de minimis exception to the tax reporting requirements for cryptocurrency transactions, apparently motivated by a concern that Notice 2014-21 has inhibited the development of cryptocurrency as a day-to-day medium of exchange.[42] In 2017, Rep. Jared Polis (D-Colo.) and Rep. David Schweikert (R-Ariz.) introduced a bill, The Cryptocurrency Tax Fairness Act, which would exclude the first $600 (adjusted for inflation) of gain from a single cryptocurrency transaction (or a series of related transactions) from gross income for U.S. federal income tax purposes.[43] Both the American Bar Association Section of Taxation and the American Institute of CPAs have previously recommended a de minimis rule for reporting gain on cryptocurrency transactions along the lines of the exemption currently available for certain nonfunctional foreign currency transactions under section 988 of the Code.[44] The Polis and Schweikert bill was not included as part of the comprehensive tax legislation[45] passed in December of last year. It is unclear whether or when this bill will be considered by Congress in the future.

Income received as payment for goods or services

Employees or independent contractors that receive cryptocurrency as payment for services should receive a W-2 or 1099-MISC, as applicable, indicating the fair market value of the cryptocurrency paid as of the date of payment.[46] Notice 2014–21 imposes specific information reporting requirements both on employers and on persons who purchase services from independent contractor for use in their trade or business. Third-party settlement organizations (TPSOs) such as Coinbase are also subject to reporting requirements if the number and the dollar value of the transactions they settle exceed certain thresholds.[47]

The IRS Coinbase summonses

On November 29, 2017, a U.S. federal district court ordered Coinbase to turn over to the IRS personal identification and financial information on as many as 14,355 account holders and 8.9 million transactions (according to estimates provided by Coinbase). [48] The IRS had brought the "John Doe" summons against Coinbase after an investigation had revealed evidence of mass underreporting of bitcoin-related gains. (According to the IRS summons, cited in the court's order, between 800 and 900 taxpayers reported Bitcoin-related gains on an electronically filed Form 8949 during the years covered by the order, a number vastly lower than the estimated number of users engaging in taxable cryptocurrency transactions.) Although the order was limited to account holders having bought, sold, sent, or received cryptocurrency worth $20,000 or more in a single year, it is probable that the IRS will continue to pursue similar orders against Coinbase and other exchanges until legislation implementing uniform third-party reporting procedures are adopted.

Financial crimes and tax evasion

Notwithstanding the general characterization of cryptocurrencies as property for U.S. tax purposes, the

U.S. Treasury's Financial Crimes Enforcement Network (FinCEN) regards "exchangers" (*i.e.*, cryptocurrency exchanges such as Coinbase) as "money service businesses," or MSBs.[49] Therefore, although a cryptocurrency is not itself "money," cryptocurrency exchanges are required to report when Bitcoin is exchanged for large amounts of actual money under rules intended to prevent money laundering. While not all cryptocurrency exchanges have complied and registered with FinCEN as MSBs, the penalties for failure to comply can be steep.[50]

U.S. taxpayers that hold foreign bank accounts denominated in cryptocurrency may be required to report these accounts on FinCEN Form 114, Report of Foreign Bank Account (FBAR) if the aggregate value exceeds $10,000 at any point in the calendar year.[51] Although the IRS has not issued official guidance on the subject, it is possible that accounts covered by the FBAR would include cryptocurrency held on a foreign exchange (although the requirement does not appear to apply to cryptocurrency held in one's personal wallet).[52]

U.S. individual taxpayers are also required under the Foreign Account Tax Compliance Act (FATCA) to report to the IRS any "foreign financial assets" valued at $50,000 or more on IRS Form 8938. Although not entirely clear, because cryptocurrency is "property" for tax purposes, it is arguably a foreign financial asset subject to this reporting rule.

6. Conclusion

Although intended as an introduction of the existing tax laws applicable to cryptocurrency transactions, this introduction raises as many questions as it provides answers. As cryptocurrencies continue to gain in popularity and are used in a wider variety of settings, the tax issues implicated in these transactions are likely to grow ever more complex. Additional guidance from Congress or the IRS is sorely needed to resolve the uncertainty surrounding tax treatment of cryptocurrency transactions and to give taxpayers a clearer roadmap for compliance.

Notes

1. This article is based, in part, on an earlier blog post of the same title. See Kathleen R. Semanski, *Income, from Whatever Exchange, Mine, or Fork Derived: The Basics of U.S. Cryptocurrency Taxation*, Blockchain and the Law (November 29, 2017), *https://www.blockchainandthelaw.com/2017/11/income-from-whatever-exchange-mine-or-fork-derived-the-basics-of-u-s-cryptocurrency-taxation/*.
2. The author would like to thank Michael Fernhoff, Jeremy Naylor, and Eftychios Pnevmatikakis for their thoughtful comments to this article. Any errors are solely those of the author.
3. Section 1411 of the U.S. Internal Revenue Code of 1986, as amended (the Code). All references to section numbers are to sections of the Code or to the Treasury Regulations promulgated thereunder except as otherwise provided.
4. IRS Notice 2014-21, 2014-16 I.R.B. 938.
5. Although the Notice only applies expressly to convertible virtual currencies, we assume the same rationale would apply to cryptocurrencies generally.
6. Commission fees paid to acquire cryptocurrency may be added to tax basis under section 1016 of the Code.
7. *See* Section 13303 of Pub. L. 115-97 (passed December 22, 2017).
8. As of April 29, 2018, each of the 34 largest Bitcoin addresses had acquired Bitcoin in multiple transactions, ranging from nine to more than 150,000. Nearly 2/3 of these addresses had engaged in sale as well as acquisition transactions. *See https://bitinfocharts.com/top-100-richest-bitcoin-addresses.html* (last accessed April 29, 2018).
9. *See* Treas. Reg. § 1.1012-1(a).
10. Treas. Reg. § 1.1012-1(c)(2).
11. Treas. Reg. § 1.1012-1(c)(1), -1(e).
12. *See, for example, Perlin v. Comm'r*, 86 T.C. 388 (1986).
13. CFTC Grants DCO Registration to LedgerX LLC, U.S. Commodity Futures Trading Commissioner (July 24, 2017), *https://www.cftc.gov/PressRoom/PressReleases/pr7592-17* (last accessed May 5, 2018).
14. *See, for example*, Rev. Rul. 73-158, 1973-1 C.B. 337.
15. *See* Treas. Reg. § 1.988-2(a)(2)(iii)(B) (a method that consistently results in high-basis units being withdrawn first is not "reasonable").
16. While an argument might be made that a taxpayer need only use a consistent method for transactions in the same cryptocurrency, or from the same digital wallet, this approach appears to be inconsistent with the nonfunctional currency regulations. *See* Treas. Reg. § 1.988-2(a)(2)(iii)(B)(1) (requiring that a basis determination method be consistently applied "to all accounts denominated in a nonfunctional currency").
17. *See, for example*, David Farmer, *What is a Bitcoin fork?*, The Coinbase Blog (July 27, 2017), *https://blog.coinbase.com/what-is-a-bitcoin-fork-cba07fe73ef1* (last accessed May 5, 2018).
18. 348 U.S. 426 (1955).
19. Section 305(d)(1).
20. 252 U.S. 189 (1920).
21. *Koshland v. Helvering*, 298 U.S. 441 (1936), *rev'g* 81 F.2d 641 (9th Cir. 1936).
22. American Bar Association Section of Taxation, Letter to David Kautter, Acting Commissioner of the IRS re: Tax Treatment of Cryptocurrency Hard Forks for Taxable Year 2017 (March 19, 2018) (the "ABA Letter"). Note that the guidance requested in the ABA Letter was specific to tax year 2017; the Section of Taxation has not yet concluded on the proper U.S. federal income tax treatment of Hard Forks as general matter. ABA Letter at 12.

23. A “protocol” is basically a set of rules that governs operations and communications between network participants and the blockchain ledger.
24. Holders of Ether were given the opportunity to vote on the hard fork via an ad hoc polling mechanism at carbonvote.com. Users voted by sending nominal amount of Ethereum to either a “Vote-No” or “Vote-Yes” address. The votes were weighted based on the number of coins recorded to that holder’s account and the transferred Ether returned via smart contract. A record of the historical vote can be found at *http://v1.carbonvote.com/* (last accessed April 28, 2018).
25. Ethereum Classic was trading at $23.55 as of May 7, 2018. Ethereum Classic, CoinMarketCap (May 7, 2018), *https://coinmarketcap.com/currencies/ethereum-classic/*. Immediately before the hard fork in July 2016, legacy Ethereum was trading at approximately $11.11; the trading price of Ethereum as of May 6, 2018, was $731.87. Ethereum, CoinMarketCap (May 7, 2018), *https://coinmarketcap.com/currencies/ethereum/*.
26. Notice 2014-21, *supra*, n.4.
27. A number of states are considering accepting state tax payments made in cryptocurrency, including Arizona, Georgia, and Illinois. An Arizona bill that would have provided for taxes on transactions conducted in cryptocurrency to be paid directly at the point-of-sale using blockchain technology was vetoed by Governor Doug Ducey on May 16, 2018. Bill History for S.B. 1091, Arizona State Legislature, *https://apps.azleg.gov/BillStatus/BillOverview/69854* (last accessed May 21, 2018).
28. Notice 2014-21, *supra*, n.4.
29. Section 165(a), (c)(1)-(2).
30. Section 165(b), (e); Treas. Reg. § 1.165-1(c).
31. Nicole Kobie, *This man’s lost bitcoin are now worth $75m – and under 200,000 tonnes of garbage*, Wired (December 1. 2017), *http://www.wired.co.uk/article/bitcoin-lost-newport-landfill*. For a lost wallet story with a happier outcome, *see* Mark Frauenfelder, *‘I Forgot My Pin’: An Epic Tale of Losing $30,000 in Bitcoin*, Wired (October 29, 2017), *https://www.wired.com/story/i-forgot-my-pin-an-epic-tale-of-losing-dollar30000-in-bitcoin/*.
32. However, as the loss deduction must be taken in the tax year in which the loss actually occurred (even if not the same tax year as the act of overt abandonment), the taxpayer may be required to file an amended tax return for the earlier loss year to claim the deduction. Treas. Reg. § 1.165-2(a). Prior to January 1, 2018, individual taxpayers were permitted to take deductions for unexpected casualty losses over $100 to the extent in excess of 10 percent of adjusted gross income.
33. Treas. Reg. § 1.165-1(b) (generally requiring that section 165 losses be fixed by “identifiable events”); *see also United Dairy Farmers, Inc. v. U.S.*, 267 F.3d 519 (6th Cir. 2001) (identifiable events “must be observable to outsiders and constitute some step which irrevocably cuts ties to the asset”) (internal quotation marks omitted); Rev. Rul. 2004-58 (describing section 165 losses as “abandonment losses”); *Gulf Oil v. Commissioner*, 914 F.2d 396 (“[m]erely abandoning” leases on paper “because they are deemed worthless” was insufficient to demonstrate abandonment for purposes of a section 165 loss deduction). A taxpayer may be able to establish abandonment by writing to the cryptocurrency exchange where the coins are stored and so indicating. *See* Jon P. Brose & Brett R. Cotler, Hand Over Your Digital Wallet. Yes, Cryptocurrency Transactions are Taxable at 14, available at *https://bit.ly/2s0k7mI* (last accessed May 23, 2018).
34. Section 165(e).
35. Worthlessness might also occur following a hard fork, if a taxpayer includes the value of the forked currency in income, and the new protocol is ultimately not adopted by participants. The ABA has suggested that a taxpayer in this situation may be able to claim a loss equal to its adjusted basis in the forked coins (*i.e.*, the amount of income originally included). ABA Letter, *supra*, n.19, at n.20; *see also* section 165(c)(2).
36. Section 165(g)(2) (defining a “security” as a share of stock in a corporation, a right to subscribe for or to receive a share of stock in a corporation, or a bond, debenture, note, certificate, or other evidence of indebtedness issued by a corporation or a government with interest coupons or in registered form).
37. IRS, IRS reminds taxpayers to report virtual currency transactions, IR-2018-71 (March 23, 2018), available at *https://www.irs.gov/newsroom/irs-reminds-taxpayers-to-report-virtual-currency-transactions* (last accessed April 29, 2018).
38. *See* section 6045(g)(3)(B); Treas. Reg. § 1.6045-1(a)(14). Cryptocurrency derivative sales may nevertheless be subject to Form 1099-B reporting. *See, for example*, Stevie D. Conlon et al., *Taxation of Bitcoin, Its Progeny, and Derivatives: Coin Ex-Machina*, Tax Notes (February 19, 2018).
39. *See*, *for example*, Coinbase Support, Taxes FAQ, coinbase.com, *https://support.coinbase.com/customer/en/portal/articles/1496488-taxes-faq* (last accessed May 4, 2018).
40. CoinTracking, *https://cointracking.info/* (last accessed May 5, 2018).
41. Section 988(e)(2).
42. *See, for example*, Press Release, *Creating tax parity for cryptocurrencies*, U.S. Representative Jared Polis (September 7, 2017), *https://polis.house.gov/news/documentsingle.aspx?DocumentID=398438* (last accessed May 5, 2018).
43. *See* H.R. 3708, To amend the Internal Revenue Code of 1986 to exclude from gross income de minimis gains from certain sales or exchanges of virtual currency, and for other purposes (September 7, 2017), Congress.gov, *https://www.congress.gov/115/bills/hr3708/BILLS-115hr3708ih.pdf* (last accessed May 5, 2018).
44. *See* AICPA, Comments on Notice 2014-21: Virtual Currency Guidance (June 10, 2016), *https://www.aicpa.org/Advocacy/Tax/DownloadableDocuments/AICPA-Comment-Letter-on-Notice-2014-21-Virtual-Currency-6-10-16.pdf* (last accessed May 5, 2018); American Bar Association Section of Taxation, Comments on Notice 2014-21, available at *https://www.americanbar.org/content/dam/aba/administrative/taxation/policy/032415comments.authcheckdam.pdf* (last accessed May 5, 2018) (recommending a de minimis exception for cryptocurrency gain reporting consistent with guidance for foreign currency transactions).
45. *See supra*, n.6.
46. Form 1099-MISC is generally required for payments of $600 or more to an independent contractor.

47. Coinbase provides a Form 1099-K to business users that have received $20,000 or more from virtual currency sales over a minimum of 200 transactions. *See* Coinbase Support, Taxes FAQ, coinbase.com, *https://support.coinbase.com/customer/en/portal/articles/1496488-taxes-faq* (last accessed May 4, 2018).
48. Order re: Petition to Enforce IRS Summons, *U.S. v. Coinbase, Inc., et al*, Case No. 17-cv-01431-JSC (N.D. Cal. November 28, 2017).
49. An "exchanger" is defined as "a person engaged as a business in the exchange of virtual currency for real currency, funds, or other virtual currency." FinCEN, Application of FinCEN's Regulations to Persons Administering, Exchanging, or Using Virtual Currencies, FIN-2013-G001 (March 18, 2013), available at *https://www.fincen.gov/sites/default/files/shared/FIN-2013-G001.pdf* (last accessed May 5, 2018); *see also* FinCEN, *Request for Administrative Ruling on the Application of FinCEN's Regulations to a Virtual Currency Trading Platform*, FIN-2014-R011 (October 27, 2014), available at *https://www.fincen.gov/sites/default/files/shared/FIN-2014-R011.pdf* (last accessed May 5, 2018).
50. *See, for example*, Assessment of Civil Money Penalty, *In re BTC-E a/k/a/ Canton Business Corporation and Alexander Vinnik*, FinCEN No. 2017-03 (imposing civil penalties of $110,003,314 on an offshore cryptocurrency exchange, BTC-e, for willful violation of MSB registration requirements and other willful failure to comply with anti-money laundering laws).
51. 31 C.F.R. 1010.350.
52. An IRS webcast previously reported that virtual currency would not be reportable on the FBAR for the 2014 filing season (the video has since been removed from the IRS Web site). The AICPA has requested official guidance on the foreign reporting requirements for virtual currency. AICPA, Comments on Notice 2014-21: Virtual Currency Guidance (June 10, 2016), *https://www.aicpa.org/Advocacy/Tax/DownloadableDocuments/AICPA-Comment-Letter-on-Notice-2014-21-Virtual-Currency-6-10-16.pdf* (last accessed May 5, 2018); *see also* Andrew Velarde, *FinCEN Not Expecting FBARs for Virtual Currency*, Tax Notes (November 8, 2017) (quoting a FinCEN official stating that "[a]s the regulations are currently written, a virtual currency wallet would not fall under our definition of an account").