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## Crypto Economy: Banking without a Bank

Consider the World Wide Web in the late 1990’s and what was being said: *I don’t trust it. I would never do my banking over the internet. I’m not going to put my credit card number out there, there’s fraud and corruption.*

Radical concepts often draw skepticism. The crypto economy was born when a white paper was published in October 2008 under the pseudonym Satoshi Nakamoto—a non-identified person or group. This led to the launch of the Bitcoin network in 2009 with what enthusiasts would call an anti-government, anti-system, and anti-establishment theme. The birth of the Bitcoin network during the Great Recession is key to understanding the crypto community.

Think of the dot-com bubble in 2000 that reset internet companies. WorldCom and Enron then failed under clouds of wrongdoing and fraud. Finally, the global financial crisis in 2008 took down Indy Mac (the fourth largest domestic bank), Lehman Brothers (filed for bankruptcy), and Merrill Lynch (sold to prevent disaster).

### Crypto Infrastructure

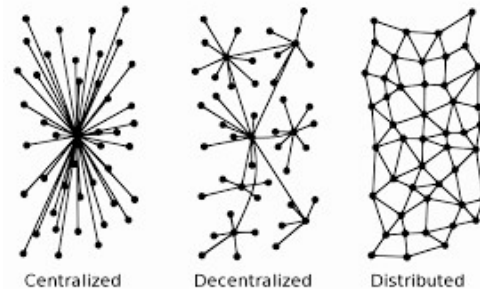
Bitcoin’s programming addressed these institutional events by providing a peer-to-peer, decentralized, open network with no centralized governing authority. Distributed Ledger Technology (DLT), which was previously in existence, records transaction details in multiple places at the same time. Blockchain is a well-known type of DLT. It is a censorship resistant method for managing records. It was a response to the global financial crisis, declaring that no one CEO, control point, or person should have so much power as to derail the financial system.

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*"Decentralized Autonomous Organizations (DAO’s) were born. Organizational rules are embedded in the network code."*

Let’s jump forward 10 years and move past bitcoin price speculation and the idea that crypto is operating on the fringe. The crypto economy functions with three interested parties: (1) Users making transactions, (2) Miners verifying the digital record of transactions on a blockchain across a global network of computers, and (3) Investors funding projects. Crypto coins beyond Bitcoin include Ethereum, Solana, Cardano, USDC, Stellar, Tron, Algorand, Litecoin, and Uniswap, to name a few of the thousands that now exist. There are no physical crypto coins. They exist only in the digital world, memorialized on the blockchain.



### Crypto Users

Value is typically moved through the crypto economy from one user to another within minutes. No bank or financial intermediary is involved; value moves directly from your digital wallet to the recipient’s digital wallet, peer-to-peer. Like the internet, this operates 24/7/365. Traditional financial rails may require you to complete transactions during open business or market hours, charge a fee, convert currency at a cost of 2-7%, and wait a few days for verification or settlement. Welcome to decentralized finance (DeFi), with no middleman or intermediary. We can now bank, hold assets, or transfer value without a bank!

## Crypto Economy: Banking without a Bank—cont.

### Global Digital Currency

Now imagine a global family with members working in India, the Philippines, South Korea, and the United States. They can open their crypto wallet and transfer 'value' home or abroad using public and private keys. This combination of crypto keys maintains user anonymity and security. The \$5,000 transaction is back home in mere seconds, where access to traditional banking services may be difficult. Nigerians receive \$25 billion from relatives abroad. Cambodians are 70% unbanked, but many could connect to a digital network with a cell phone. It is said that 14 million American adults and over 1.5 billion individuals globally are unbanked. Imagine the exponential global economic growth if they all had a smart-phone and a crypto account.

Let's raise the stakes and introduce global transactions, global corporations, and multi-million dollar trade agreements. Expenses are in one currency, revenue is in another currency, and vendors want to be paid in yet another currency. Instead of bitcoin, which may decrease or increase in value while transacting, the corporation uses crypto stablecoin to transfer \$5 million from one office to another, from one entity to another, and from one country to another in real time. The recipient then either holds the stablecoin or converts it to \$5 million of local

*Stablecoin: cryptocurrency pegged to a stable reserve asset, such as the U.S. dollar, Yen or Euros*

currency. Stablecoins are digital records that are typically converted 1:1 into a base currency, similar to money market shares being converted 1:1 into dollars.

In some crypto networks, smart contracts can be added. Do you remember the 'if/then' statement in computer programming? "If this happens, then this happens." That is the current day crypto smart contract. If you digitally sign the contract, value is released. Smart contracts are a technological advancement on the vending machine, where \$1.50 is submitted, a candy choice is made, the correct amount is confirmed, and a Snickers is delivered immediately. Apply this to the title of a car or deed to real estate where ownership transfer would be



immediate upon the transaction. A validated digital record would not require a town hall visit to initiate a deed request, which would arrive three weeks later via snail mail.

### Crypto Protocol: Miners

It is time to mention the second group: miners. Miners use powerful computers to validate and verify transactions on the blockchain. Remember that a blockchain is open architecture, so miners are all over the world, including Canada, United States, India, Iceland, South Korea, and Russia. Once enough miners validate, the blockchain becomes verified, secured, linked, and locked. Miner's costs are primarily computing power and electricity. The reward for providing this mining service is native network crypto, such as bitcoin on the Bitcoin blockchain, or ether on the Ethereum blockchain.

This mining verification process is called proof of work (PoW) and is at the heart of a secure decentralized consensus network, with no one point of failure. Crypto has evolved to also include proof of stake (PoS). Those with a large stake (own a large position in the native crypto coin) increase their random probability selection odds to be the verifier, which in turn increases the potential crypto rewards for the miner.

## Crypto Economy: Banking without a Bank—cont.

### Crypto Funding

Users and miners would not be able to operate without the crucial third party: the investors. Investors provide the capital to build the network in return for coins and crypto. The hope is that the value of the network will increase. Just like companies have initial public offerings (IPOs), coins have initial coin offerings (ICOs). ICOs raise capital to fund networks, ideas, or crypto concepts. Coins exist only on the digital ledgers of blockchains.

You can now see a portion of the crypto economy forming. Investors and speculators buy crypto like bitcoin, ethereum, or stablecoins. They may then stake this crypto (lend with restricted holding periods) for interest payments. Miners will pay interest as the benefit of increased stakes will lead to higher revenue and rewards. Others will use crypto to borrow and leverage for increased liquidity.

### Fragmented Compliance and Regulation

Users, miners, and investors keep the crypto economy running, manage risks and rewards, and offer checks and balances. Just like the internet needed regulations to catch up with the technology, so does crypto. Some welcome it while others push back. Since it is harder to trace crypto end users, it is easier to hide value in private wallets behind private keys.

We think the successful crypto companies and networks will be the ones that do not resist but rather partner with regulators. The three key existing regulations are Anti-Money Laundering (AML), Know Your Customer (KYC), and Counter Terrorism Financing rules (CTF). All of these are aimed at preventing bad actors and minimizing illicit activity. We expect expanded regulations to address the various crypto communities.

Satoshi Nakamoto wrote in the original white paper that; "The root problem with conventional currencies is all the trust that's required to make it work. The central bank must be trusted not to debase the currency, but the history of fiat currencies is full of breaches of that trust." Nowadays, debasement could also occur when governments print excessive money and material inflation ensues.

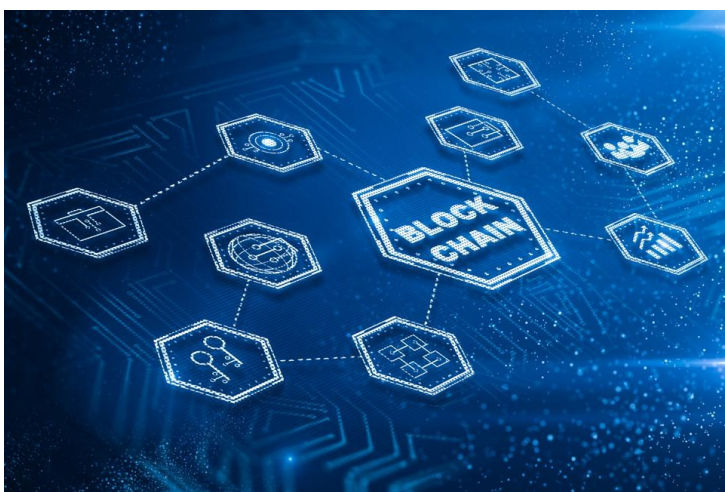
### The Future of Crypto

Crypto is here to stay, both as a new opportunity and as a disruptor. Crypto can speed up digital payment adoption and accelerate the transition away from using physical cash. It may enhance digital global payments and challenge the establishment, such as the Society of Worldwide Interbank Financial Telecommunications (SWIFT) protocols. In addition, sovereign countries are considering the implementation of Central Bank Digital Currencies (CBDCs) for transfer speed, crisis distributions, financial inclusion, and as a defensive move against competition.

Mainstream adoption of crypto increased exponentially in 2021. We expect this trend to continue with increased institutional crypto usage and acceptance, technological improvements to blockchain bridges, and an improved government regulatory environment.

### Author:

Brian Carolan, CFA®  
Co-Chief Investment Officer  
BrianC@CMHWealth.com



Note: The underlined words all have a significant crypto specific meaning. For more details, you can add the word 'crypto' before or after the word/phrase of interest and do a google search. If you prefer educational videos, visit Nate Martin from 99Bitcoins on YouTube for short videos on various crypto topics.

## Market Review

### Broad Market Strength

Entering 2021, we projected a year of broad equity market strength. This expectation was built on stimulative fiscal and monetary policy, along with a significant number of stocks finally participating in the broad rally. The S&P 500 closed 2021 up 28.7%, building on the previous year's return of 18.4%. There is a saying by Bob Farrell, a famous analyst at Merrill Lynch; "Markets are strongest when they are broad and weakest when they narrow to a handful of blue-chip names."

For the last 10 years, standard long-term expectations of return have proven to be overly conservative for most asset classes. Future expectations now have to be moderated as there is an element of mean reversion that has historically taken place in the markets. Going forward; Do not expect the next 10 years to be the same as the last 10 years.

The market and economy are beginning to grapple with a transition from an overly supportive Federal Reserve (Fed) to one that is easing support. Our view is the Fed is removing unnecessary support and liquidity from an economy that is now more stable. With monetary transitions comes asset

volatility. We expect this to increase in 2022. While volatility may bring both challenges and opportunities, diversification is key to navigating unsettled waters.

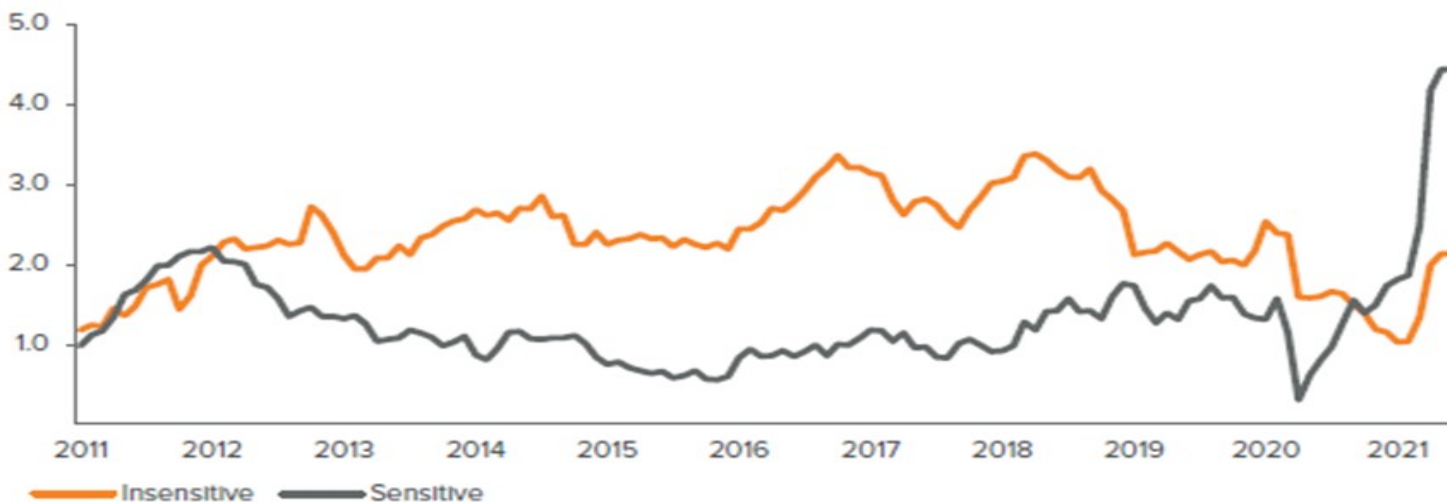
### Inflation Moderates

Headlines across the globe continue to emphasize inflation. The commentary suggests that record inflation is here. While current inflation fears are understandable, the following questions are raised:

- Will dramatic price appreciation continue?
- Are material price increases being seen broadly across products and industries?
- Could price increases be the result of comparing recession lows to recovery highs?
- Are real wages growing?
- Are current inflation trends cyclical (short-term) or structural (long-term)?

Specific sectors of the economy that were significantly impacted by the pandemic, such as travel, automotive, entertainment, and sports, experienced aggressive price recovery in 2021 (Figure 1). If one were to strip out these sectors, inflation measures

**Figure 1. Two Tales of Inflation: Covid Sensitive and Covid Insensitive**



Source: Bureau of Labor and Statistics, Federal Reserve and Voya Investment Management. Sensitive and insensitive Covid inflation as measured by the U.S. Federal Reserve of San Francisco Covid Sensitive/Insensitive Core PCE Contribution.



would be significantly below headline reports. These COVID-sensitive sectors are showing double the year-over-year growth in inflation, while COVID-insensitive sector inflation growth remains stable.

Many prices that have appreciated significantly in 2021 are now well off their historical highs. This is not to suggest we do not believe there is inflation. We fully understand the view that points to cyclical inflation, such as demand/supply imbalances and supply chain issues that will take time to work out.

The other view, suggesting structural, long-term inflation like that experienced in the 1970's, is not a base case scenario that we expect. Our economy is much more productive than it was in the 1970's, and productivity is an inflation moderator. Corporate unions are now less of a broad threat for company management, which will help keep wage inflation in check. Wages are also not currently inflationary as average growth rates are less than nominal inflation.

Finally, when faced with challenging investment questions, we look to the bond market for further investment guidance. Historically low long-term bond yields signal that future growth and inflation will be lower than current forecasts are suggesting.

### Portfolio Positioning

Looking ahead, we see late economic cycle volatility as the Federal Reserve struggles with how much to tighten financial conditions. We continue to invest in a diversified portfolio. Currently this includes:

- Value and growth styles;
- Exposure to all eleven equity sectors;
- Anchor and opportunistic stocks;
- Dividend and non-dividend stocks.

Maintaining an emphasis on diversification should continue to be a prudent approach.

## Asset Allocation

We remain overweight equities relative to fixed income. With history as a guide, monetary tightening typically affects the short end of the yield curve more than the long end. This leads to interest rates remaining lower for longer, despite recent tightening by the Fed. This should help keep long-term rates in check, which is supportive of equities over the intermediate term.

We maintain our bias to U.S. stocks relative to those domiciled elsewhere. Despite this home country bias, we feel comfortable knowing most of the companies in our portfolios generate global

revenues. Within the U.S. equity allocation, small- and mid-cap equities are still an area of emphasis.

While international stocks may periodically show strong performance, this year highlighted an increased risk that was underpriced in non-U.S. stocks: political risks. China and the U.S. are exchanging barbs by delisting publicly traded companies. This can bring significant short-term volatility and loss of value or liquidity.

We favor intermediate duration bonds, which carry interest rate risk that could be considered average. We continue to underweight our allocation to high

Asset Class	Current Tactical View
Fixed Income Investment Grade High Yield	Underweight in this low yield environment Underweight this lower quality, higher risk asset class
Equity Large Capitalization Small & Mid Capitalization International	Overweight quality companies Overweight higher growth sectors Underweight higher risk, lower growth economies

yield bonds. Yields are well below 5% for this higher risk asset class. As a result, the risk reward ratio is not as attractive. Despite a smaller allocation to this asset class, it still serves a purpose in a diversified portfolio.

During the past two years you may have noticed direct/indirect U.S. Treasury bond exposure becoming a more stable position in your portfolios. This is something we expect to continue should yields remain reasonable. Treasury bonds offer substantial liquidity and diversification that helps reduce total portfolio risk. Should the stock market decline, they serve as a liquid tool to implement tactical asset allocation shifts.

### Equity Sector

While 2020 was a year full of growth and momentum-style outperformance, 2021 hit the stock

market with something we discussed earlier: mean reversion. Mean reversion is a natural occurrence in most investment markets. It suggests that periods of significant outperformance are typically followed by periods of underperformance.

Most of the time, mean reversion trades are not long lasting. The sector leaders of 2021 (Energy, Real Estate, & Financials) were the most beaten-up sectors in 2020. We do not anticipate this trend to be sustained. We remain focused on companies growing above trend with reasonable valuations. This flexible strategy allows us to invest across all investment styles (growth, value, core...).

In summary, our strategy of growth at a reasonable price is still a focus. As always, diversification remains an emphasis to ensure our portfolios can navigate good and bad markets, creating both a great offense and defense.

## Roth Conversion as an Estate Planning Tool

A Roth conversion allows an investor to convert a portion of a pre-tax Individual Retirement Account (IRA) into a Roth IRA. Income taxes are due on the conversion amount. However, all future growth in that account is tax free. In addition to Roth conversions with IRAs, some 401(k) plans allow for after-tax contributions inside the retirement plan. If permitted by the plan, employees can immediately convert after-tax contributions into a Roth account. This is also known as a "Back Door Roth Conversion."

Roth conversions can make sense for many individuals. They allow an investor to shield a portion of their retirement assets from any future taxes. While we cannot predict the future of taxes, this strategy provides protection against future tax increases. Additionally, unlike traditional retirement accounts, Roth IRA's are not required to pay Required Minimum Distributions (RMD's) when the owner reaches the age of 72. Reducing RMD's from traditional retirement accounts, which are considered taxable income to the recipient, can help to lower reported income to a retiree. Lower taxable income can also lower Medicare expenses.

Perhaps the most underappreciated aspect of Roth accounts comes in the advantages they provide for estate planning. If a client expects to leave assets to children or grandchildren, a retirement account is a nice gift to leave. However, current rules require most non-spouse beneficiaries to distribute all assets from the account within 10 years. Distributions from tax-deferred accounts will be reported as taxable income to the beneficiary. To avoid a large, one-time tax hit, the beneficiary will need to do some tax planning to determine the most effective distribution strategy, likely over a period of years. A Roth account would still need to be distributed within 10 years, but with no tax due to the beneficiary. The tax paid on a Roth conversion during the life of the owner can lower the owner's taxable estate while also leaving a significant tax-free gift to future beneficiaries.

In the Build Back Better Act of 2021, the House of Representatives sought to restrict and eventually end Roth conversions. The bill did not pass the Senate. We continue to evaluate this strategy for clients on a case-by-case basis, and expect that the window on this strategy will be closing in the future.

S&P 500 ANNUAL RETURNS LAST 25 YEARS

Year Ending	Total Return Change
2021	28.7%
2020	18.4%
2019	31.5%
2018	-4.4%
2017	21.8%
2016	12.0%
2015	1.4%
2014	13.7%
2013	32.4%
2012	16.0%
2011	2.1%
2010	15.1%
2009	26.5%
2008	-37.0%
2007	5.5%
2006	15.8%
2005	4.9%
2004	10.9%
2003	28.7%
2002	-22.1%
2001	-11.9%
2000	-9.1%
1999	21.0%
1998	28.6%
1997	33.4%
<b>Avg. Annualized</b>	<b>9.76%</b>

Table Source: S&P Dow Jones Indices

**Summary**

The table to the left is a stark reminder that stock market returns are highly variable year-over-year. The average annual return for the past three years was over 26% per year, or 2.5 times normal returns. The average annual return for the 2000-2010 decade was actually less than 1% per year. When one expands the investment horizon to a 25 year market cycle, annual returns revert closer to historical averages of 10%.

We suggest investors taper return expectations going forward due to the bull market of the past three years. In addition, stock market concentration has evolved to a handful of companies. Focusing on a diversified portfolio built with both offensive and defensive elements should allow investors to navigate all market cycles.

We hope our readers enjoyed the breadth of topics this year. Please reach out with any questions. We would enjoy hearing your feedback and questions.



**Author**

John Fredette, CFA®  
Co-Chief Investment Officer

JohnF@CMHWealth.com



**Author**

Thomas Burleigh, CFP®, CTFA  
Wealth Manager

TomB@CMHWealth.com

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All portfolios have the same core discipline but may be impacted by the views above to different degrees. Some use individual stocks, individual bonds, mutual funds, exchange traded funds, or are a combination of all of these security types. We customize each portfolio by considering other holdings, liquidity needs, different tax brackets, risk tolerance, financial goals, etc. The views expressed in this newsletter accurately reflect CMH Wealth Management's opinions about the investments and/or economic subjects discussed. This publication is designed to provide general information about economics, asset classes and strategies. It is for discussion purposes only since the availability and effectiveness of any strategy is dependent upon individual facts and circumstances. The information contained herein has been obtained from sources believed to be reliable, but we cannot guarantee its accuracy or completeness. Opinions and