# Field of Cryptos

## MEMO

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**TABLE OF CONTENTS**

**MEMO: Field of Cryptos**

Dear All,

…Bitcoin, Blockchain, Ripple, Ethereum! Is this the world's worst scrabble game, or has everything just changed? It's been nearly six months since my last newsletter – a long time between drinks, as they say. Enough time to sit back, observe and enjoy the severe gyrations of a digital gold rush. Crypto-currency is the name of the game and everyone seems to be taking part. Stories abound of hackers rummaging through garbage – in search of lost hard drives full of Bitcoin – like pirates scrounging for sunken treasure. Local IT nerds and blue-collar Joe's are striking it rich trading cryptos on their iPhone – much to the chagrin of their more buttoned-down colleagues. And although the euphoria has subsided somewhat, since the turn of 2018, it is still hard to escape the signs of crypto mania. Adverts for crypto brokerage accounts, entire houses for sale in Bitcoin, and a stream of pundits speculating (with the utmost confidence) on the long-term impact of Blockchain. The last thing the world needs is another commentary on the price of Bitcoin. So instead, I want to unpack and decipher the deeper economic forces at play. Hopefully, to distil a clearer sense of what these new digital assets might be worth (if we can even call them assets). But before I dive in, a few housekeeping updates are in order.

New Developments

Yours truly had the great pleasure of appearing on the new Jacobs Podcast series. The show is hosted by my good friend and former colleague Sean Jacobs. Sean is one of the most talented and honest people I've ever met. His podcast is a little less polished than you might be used to. But what it lacks in pomp and refinement, it makes up for in free-flowing conversation and humility. Sean's aim is to engage with a younger generation of Australians, on less chartered topics, ranging from self-improvement and personal responsibility, to the wonkier aspects of public policy. In the first episode, we talked about the habit and benefits of reading. Our second podcast was on… well… podcasts. And since then, we've discussed "what I wish I knew in my 20s" and the common pitfalls in personal financial management. Each episode is available from the Apple Podcast Store or Sean's website: seanjacobs.com.au. I also encourage you to check out his book, Winners Don't Cheat, which is available on Amazon. The book is jam-packed full of valuable lessons, insights and personal stories. I highly recommend it.

In the last couple of months, I became more and more anxious about not having written this second newsletter. Having committed publically, in the first edition, to a follow-up within two to six months, I had inadvertently anchored myself. The resulting mental drain – of being seen as inconsistent – was a great lesson in what I now know as "commitment bias". I'm currently reading the definitive guide to such mental demons. Many of you will have heard of it: Daniel Kahneman's Thinking, Fast & Slow. I neglected this book for many years – partly because of my predisposed scepticism toward anything in the best seller list of an airport bookshop. But even after a few chapters, I can see why this book is regarded as a landmark scientific event. Kahneman absolutely destroys any faith you might have in our supreme individual capacity for reason. He definitively shows that our brain plays tricks on us via a series of innate prejudices and biases (like the one listed above). The scariest part is that even being aware of these influences won't halt their impact. The power of our intuition is like gravity. Consistently and unashamedly distorting our judgment. The few antidotes that exist include decision-making checklists and tailoring your psychological environment.

So, in this light, I've decided to cease this newsletter. Dead and buried already! For one, the content is neither newsworthy nor a formal letter. And two, the format conveys a certain expectation about frequency. Instead, I promise to publish completely irregular and spontaneous "Memos". Ones that won't be targeted at any particular audience and be composed in a rather informal manner. They will take inspiration from the now famous Memos issued by investor, and CEO of Oaktree Capital, Howard Marks. And finally, they will hopefully serve as a kind of brainstorming outlet. You're probably thinking – isn't this overkill? Is it really necessary to re-purpose such a small endeavour? Well, before you pass judgment, I encourage you to read Thinking, Fast & Slow for yourself. I promise, you will never look at the choices and decisions you make in the same way again. One final housekeeping update. A new Case Study has been uploaded to the Whig Capital website (see here). It details our latest piece of research work, which was a review of an unlisted commercial property trust. One whose sole asset was a sub-regional Australian shopping centre. Otherwise, that's probably enough with the boring administrative updates!

The Value of Bitcoin?

This is the $64 billion question. Or is it $64 trillion? I lose count. What it all boils down to, what everyone wants to know, is the value of these tokens. I've seen all sorts of estimates. From calculations of "velocity", to the replacement value of all fiat currency, to outright guesses. So, what's the right price? Let's start with the fundamentals. The economic value of any asset is the sum of all future cash flows, discounted back to the present. Why are they "discounted"? Because all things being equal, you prefer a dollar today, to a dollar tomorrow. As the old adage goes: "a bird in the hand is worth two in the bush". Delivery of that future dollar is less certain, so you value it less than the dollar today. In the world of finance, this is known as "the time value of money". In fact, everything in finance is just moving money (or value) back and forth through time. It's that simple. Bankers just keep coming up with more and more complicated ways of doing it. But I digress! So, what are the likely cash flows from owning a Bitcoin? Well… there aren't any. Bitcoin spins off absolutely zero cash. No profits, no revenue, no EBITDA, nothing. In fact, it's really just a precious collectible. Like Gold, or Silver, or an exotic art work from the Renaissance. These things have what I call speculative value (rather than economic value).

They're expensive to buy because others perceive them to be valuable. It's a social phenomenon. Say I find a certain shabby brown chair to be aesthetically pleasing. And it turns out that you do too. And so does your neighbour. And his neighbour. And suddenly, that derelict piece of timber is worth leagues more than its replacement cost (and we dub it an "antique"). The implication here is, there's nothing to stop you or your neighbour from turning around one day and saying: "you know what? that brown chair is really just a piece of shit". And boom: Its worth firewood. The same thing is theoretically possible with every other precious collectible or commodity (aside from those with an actual end use, like oil). One day, that social bubble may just disappear and your sweet hard-earned capital is off to monetary heaven – or hell. I'm agnostic either way. Such downside risk is what steers many investors away from collectibles. It's also why value investors like Warren Buffett, Charlie Munger and Howard Marks have called Bitcoin a "fad" or a gamble. If you can't know it's true worth – in an economic sense – then you have absolutely no downside protection. And as the Oracle of Omaha says, there are only two rules of investing: Rule No.1 Don't lose money. And rule No.2 Don't forget rule No.1! The lesson is, if anyone tells you they're "investing" in Bitcoin, that's fine – each to their own. But be sure to tell them it's not investing, in any sense of the word. They're speculating.

## Deciphering Blockchain

So, we've established Bitcoin is like a Da Vinci painting. Great. What about all the talk of Blockchain, crypto-currency, the transformation of finance, decentralisation, the internet of things, smart contracts, distributed networks, artificial intelligence, the Singularity, Skynet, Elon Musk, the bloody global digital revolution! …. What is everyone so excited about? In a word: Blockchain. If there is one thing to be excited about it, its Blockchain. I first got interested in everything crypto back in 2015. And no, I didn't buy any Bitcoin (for the reasons above). Like many, what I found fascinating was that someone had supposedly created the world's first decentralised currency. For anyone with a libertarian bent, like myself, this was a massive event. Free marketers have fantasized for decades of a currency completely devoid of government intervention (for various reasons I won't go into here, but which you can read about in my earlier essay). The feat had historically proved elusive because no-one was able to crack what's known as the "double spending" problem (or the "Byzantine General's Problem" as it's known in computer science). In brief, the problem arises when someone tries to buy your old pair of runners for $20, but also tries to spend that exact same $20 somewhere else. It's hard to conceptualise, because you're thinking in terms of the physical cash. But if you think in a digital sense, and in terms of a promise to pay, it's as easy as copying an mp3 file – like a counterfeit note. The consequence is either inflation – double the amount of money in circulation, so everyone's dollars are worth less – or you don't get paid at all. This is why currencies have always been centralised – like the Australian Dollar – or taken a physical form – everything from sea shells to cigarettes and Gold bullion. A centralised body (or physical object) ensures that every dollar debited to your account is credited accordingly. It serves as a trusted custodian of the entire monetary ledger. And this is where the big innovation with Blockchain lies. What Satoshi Nakamoto did (the anonymous founder of Bitcoin) was turn a static centralised ledger into a dynamic decentralised tool – using cryptography and some clever incentives. That's all Blockchain is: a decentralised digital database that's stored and updated simultaneously by a community – without the help of an intermediary. Ultimately, it's an innovation in *accounting*. Who ever said accounting wasn't sexy! Each and every Bitcoin is one piece of that distributed ledger. There's obviously a lot more technical stuff going on. And full disclosure, I'm no expert in that area. I've tried reading Satoshi's white paper, and various developer musings, but most of it flies right over my head. What I do understand though is this concept of distributed trust. And *that*, I believe, is most important to deciphering the Blockchain.

## Potential Applications

You're probably thinking: so, it's a new type of ledger. Big deal. Why all the fuss? Accounting is one of those conventions that's so pervasive and fundamental to everyday life that we kind of forget about it – like writing or Mathematics. Without it, civilisation would literally collapse on its face. Don't believe me? Consider that some of the most important leaps in human progress were associated with developments in accounting. The invention of clay tablets in Mesopotamia around 7,000 years ago – the earliest and most primitive form of accounting – presaged the development of writing, counting, and money itself. The invention of double-entry bookkeeping in medieval Italy enabled the birth of banking and spread of commercial life in Europe – kick starting the enrichment of the Western World. In fact, the modern joint-stock corporation – that much maligned progenitor of "jobs and growth" – is only possible thanks to prior innovations in accounting. Have I got your attention yet? Let's step back to the future – for lack of a better phrase. Bitcoin is one application of Blockchain technology. As you know, there's a whole raft of other crypto projects. Some of which are substitutes to Bitcoin – like Litecoin, Zcash or Dash – that improve certain technical features. But are all still just digital collectibles (think Silver or Rubies). More recently though, a new breed of crypto currency has emerged. Ethereum and Ripple, for instance, offer "smart contracts" and "decentralised applications". This sounds nonsensical but is easier to understand if you think of programmable Blockchains. Still not making sense? Think back to the distributed ledger. Now imagine, it offers you more than just the ability to own a piece of it. Instead, it allows you to write certain instructions on top – like a contract of exchange – which executes upon a certain event. Once that event happens, a piece of the ledger (your token) is then transferred to another party – ergo a "smart" contract. No intermediary oversees the exchange. It is entirely automated through the Blockchain itself. Crazy, right? Yes, but what actually needs this type of solution? Well, consider all those activities that rely on a central body to verify a transfer of value. Like a stock exchange, or land title office, or a Bill of Lading (a key document in international shipping). Rather than a single custodian that records the exchange, Blockchain allows the entire community to settle and store those transactions itself. You no longer need to trust one entity to maintain the ledger. An entity that could always prove corrupt – or a "single point of failure" in geek-speak – like a Russian bureaucrat in bed with the mafia. The responsibility is spread across everyone – hence *distributed* trust. Anything for which we

currently rely on a trusted intermediary, could, conceivably, be put on a Blockchain. To take this idea to the extreme, that's pretty much the entire role of what we now call "government". Public goods, like roads and infrastructure, have always been centralised, because it's the only way to get all the relevant parties to agree. In theory, Blockchain could enable people to organise and execute these types of initiatives all on their own…. Mind blown!

Crypto Citizenship

You can see why people have become so enthused. I'm excited just writing about it! But it's worth noting one important qualification. All these potential applications are still a long way from reality. What's instead happening today is rampant fraud, buggy-code, celebrity offerings, and of course, outright speculation. Which brings us back to valuation. What are all these things worth? I have a working hypothesis to share with you. My theory is that every crypto coin has the same sort of value as membership of your local footy club or council borough. i.e. the value of your right to participate in a public or non-profit entity. The largest of these being the nation-state itself. Take for instance you living in Victoria – the great land of baristas, beards, and Billy Brownless. Being a Victorian bestows certain economic benefits: use of public roads, free trams in the CBD, emergency health care, or a prompt visit from the local fireman whenever your cat sets itself ablaze. Attached to those benefits is also a right to vote in the next election. Presumably to decide who you want to manage those public resources. In my mind, a crypto currency has all the same economic characteristics as that citizenship. Your token represents the number of votes you have in the community. The underlying Blockchain protocol is like a constitution, outlining the rules and procedure for how to "spend" your vote. "Smart contracts" are the constraints around building public goods and services. And a crypto-fork – that strange phenomenon where Bitcoin splits in two, because people can't agree on the latest software update, and you end up with Bitcoin cash – is like having Western Australia secede from the Federation. The only difference is that there's no politicians, because their role has been automated through the Blockchain. Granted, this analogy is a long walk. And why I stress it's just a hypothesis. I haven't found anyone else that thinks in these terms. The closest I've come is a group of libertarian economists at RMIT, who've written some insightful blogs and papers on the economics of Blockchain (see here). They reach the conclusion that Blockchain is a new type of governance institution. And crypto coins are the attached property or ownership rights (i.e. they are not money at all). So, humour me a little longer, and let's assume my analogy is correct. What then is the value of crypto citizenship? Or even Victoria citizenship, for that matter? I have no idea! To my knowledge, nobody has tried to calculate that either. In theory, I would say it's the sum of all the economic benefits you expect to derive over the life of citizenry; discounted back to the present. The only problem is most crypto currencies today, either have no overarching economic mission (like Bitcoin), or the ones that do, make little sense (they could more easily be achieved through a company). The rest are either completely fraudulent or don't work. So, how are people ascribing hundreds or even thousands of dollars to the price of these tokens? A bit of financial history may be instructive here.

Thinking, Long & Short

One of my favourite investors is the venture capitalist Peter Thiel. You probably know him as the Silicon Valley billionaire who backed Donald Trump. I know him as the man who co-founded Pay Pal (along with Elon Musk and Reid Hoffman), the first outside investor in Facebook, and funder of some of the world's most innovative companies – like Airbnb, Space X and Palantir. In his great book, Zero to One, Thiel tells an eye-opening story from his time as CEO of Pay Pal, during the tech boom. By 1999, the dot-com mania was in full swing. People were flipping companies like it was going out of fashion. And Theil, was scarred out of his wits. One business acquaintance told Thiel that he had just planned an IPO (an initial public offering of company stock) from his living room, before he'd even incorporated a company! What's more startling, the acquaintance didn't seem to find this strange. Think about that for a moment. People were able to raise millions upon millions without even a semblance of a business plan. Such was the promise that: "the internet will change everything". And it did – the world changed dramatically. But it also took decades, and many of the companies from that era either went bankrupt or proved much less lucrative than people initially hoped (anyone remember pets.com?) Most of the value was captured by a few corporate behemoths, many of which weren't founded until after the boom. Google didn't go public until 2004, Facebook was started in 2003, and Airbnb is still private. The point is that, short term expectations got way ahead of economic reality. Bill Gates famously said "we always overestimate the change that will occur in the next two years and underestimate the change that will occur in the next ten". I believe we're witnessing that same phenomenon today. Just like the tech boom, savvy programmers are floating crypto-coins without a coherent value proposition. Business pundits are trumpeting the transformational impact of a new technology they don't fully understand. And investors are frantically throwing their capital away on nothing more than FOMO. In the long run, Blockchain may prove even more transformational than we now imagine. As revolutionary as the computer, Guttenberg's printing press, or even the Internet itself. But, just as no-one foresaw how the Internet would bring us Uber or Twitter, so today, we are unlikely to predict the "killer apps" of tomorrow. In the short term, investor expectations will just as surely get way ahead of economic reality. And most of the wealth and fortunes you see today – built on big crypto currency bets – will probably prove illusory…. Buyers beware.

If you have any thoughts or feedback on this memo, please email me. Otherwise, thank you for your interest, and until next time, happy reading.

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