



DATA UPDATE 3 FOR 2021: THE REST OF THE (MARKET) STORY

Joined at the hip?

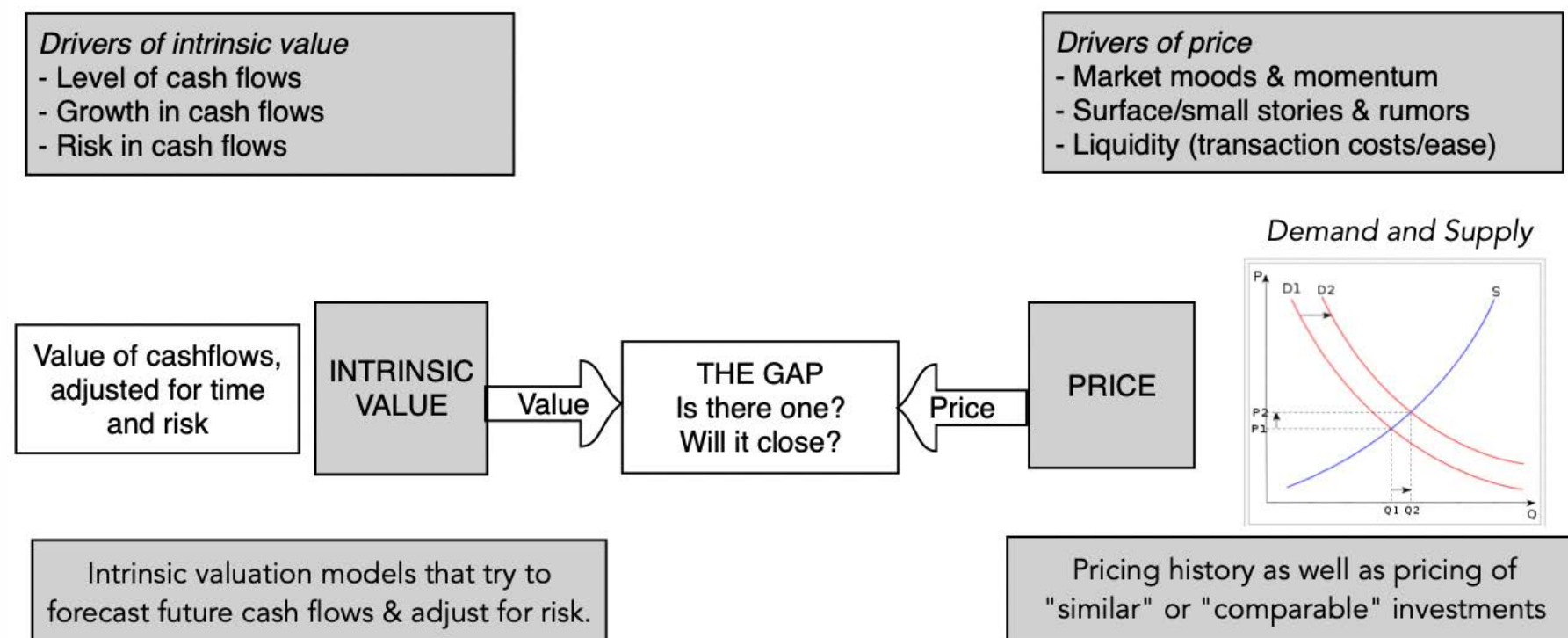
The Rest of the (Market) Story!

- As stock and bond markets went through gyrations in 2020, it should come as no surprise that the same forces were playing out in other markets as well.
- I will take a look at these other markets, starting with a way of dividing investments into assets, commodities, currencies and collectibles that I find useful in thinking about what I can (and cannot) do in those markets, and then reviewing how these markets performed during 2020.
- As I do this, there is no way that I can evade discussing Bitcoin and other crypto assets, which continued to draw disproportionate (relative to their actual standing in markets) attention during the year, and talking about what 2020 taught us about them.

Investments: A Classification

- Assets: An asset has expected cash flows that can either be contractually set, residual or even conditional on an event occurring (options and warrants).
- Commodities: A commodity derives its value from being an input into a process to produce a item (product or service) that consumers need or want.
- Currencies: A currency serves three functions. It is a *measure of value* (used to tell you how much a product or service costs), a *medium of exchange* (facilitating the buying and selling of products and services) and a *store of value* (allowing people to save to meet future needs).
- Collectibles: A collectible's pricing comes from the perception that it has value, driven by tastes (artwork) and/or scarcity (rare items). There are a range of investments that fall into this grouping from fine art to sports memorabilia to precious metals.

Value versus Price



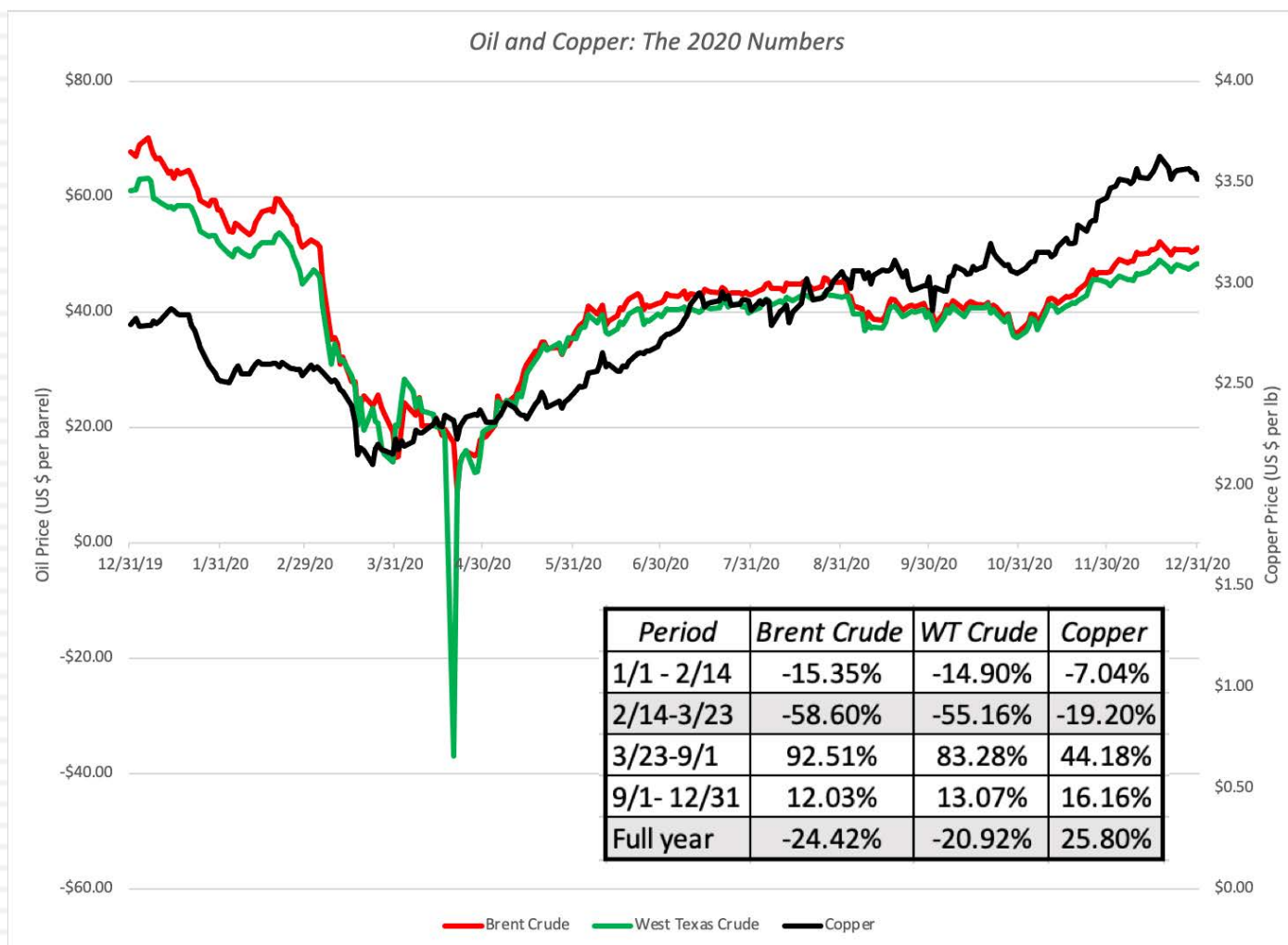
Applied to Investment Groupings..

	To value	To price
Assets	Can be valued based upon expected cashflows, with higher cashflows & lower risk = higher value.	Can be priced against similar assets, after controlling for cash flows and risk.
Commodity	Can be roughly valued using macro estimates of demand & supply for it.	Can be priced against its own history (normalized price over time) or against related commodities.
Currency	Cannot be valued	Can be priced against other currencies, with greater acceptance & more stable purchasing power = higher price.
Collectible	Cannot be valued	Can be priced based upon scarcity, desirability and longevity.

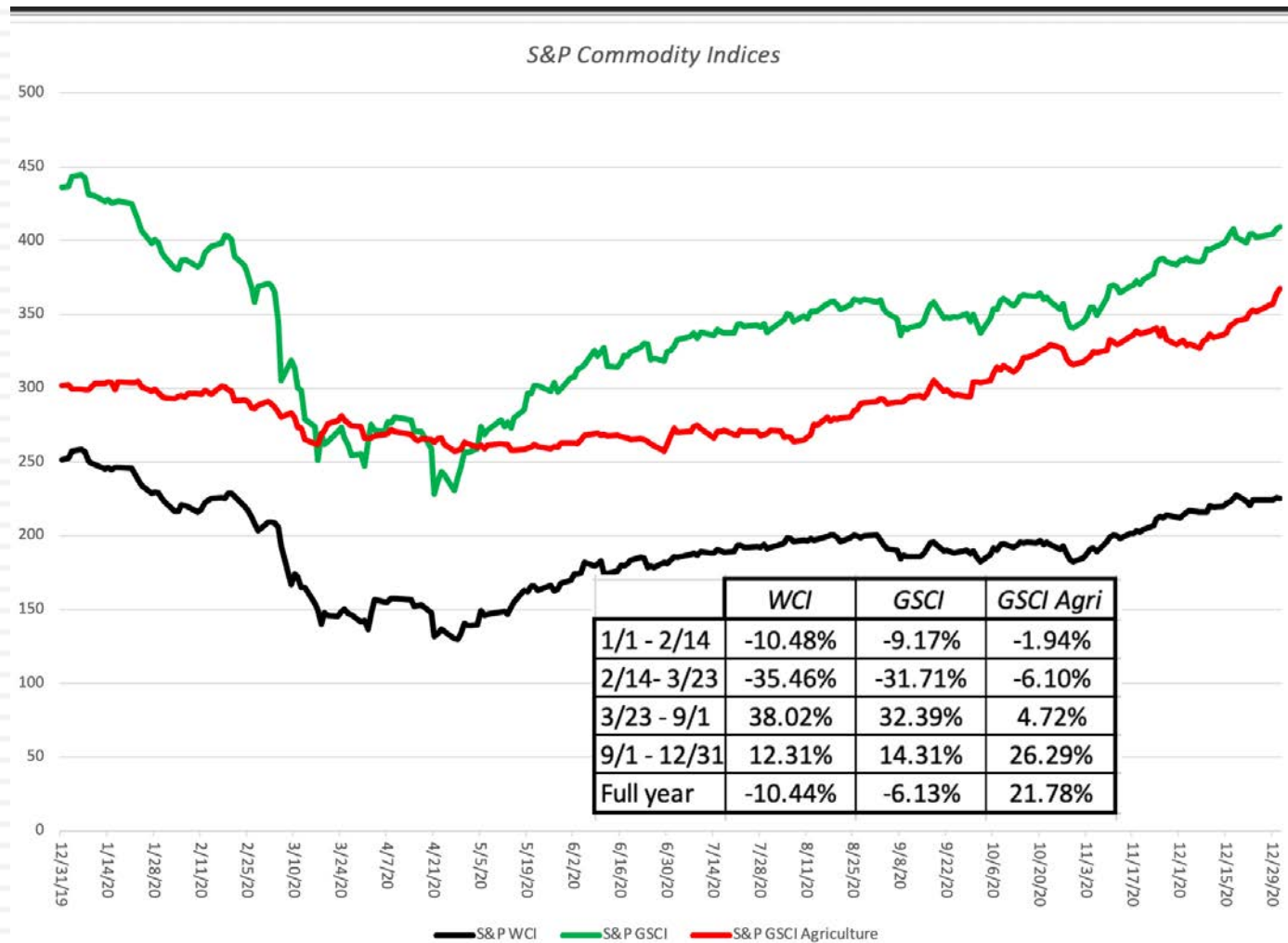
Trader or Investor?

	Trading	Investing
Underlying philosophy	The price is the only real number that you can act on. No one knows what the value of an asset is and estimating it is of little use.	Every asset has a fair or true value. You can estimate that value, albeit with error, and price has to converge on value (eventually).
To play the game	You try to guess which direction the price will move in the next period(s) and trade ahead of the movement. i	You try to estimate the value of an asset, and if it is under(over) value, you buy (sell) the asset.
Key drivers	Price is determined by demand & supply, which in turn are affected by mood and momentum.	Value is determined by cash flows, growth and risk.
Information effect	Incremental information (news, stories, rumors) that shifts the mood will move the price, even if it has no real consequences for long term value.	Only information that alter cash flows, growth and risk in a material way can affect value.
Tools of the game	(1) Technical indicators, (2) Price Charts (3) Investor Psychology	(1) Intrinsic Valuation (2) Fundamental Research
Time horizon	Can be very short term (minutes) to medium term (weeks, months).	Long term
Key skill	Be able to gauge market mood/momentum shifts earlier than the rest of the market.	Be able to “value” assets, given uncertainty.
Key personality traits	(1) Market amnesia (2) Quick Acting (3) Gambling Instincts	(1) Faith in “value” (2) Faith in markets (3) Patience (4) Immunity from peer pressure
Biggest Danger(s)	Momentum shifts can occur quickly, wiping out months of profits in a few hours.	The price may not converge on value, even if your value is “right”.
Added bonus	Capacity to move prices (with lots of money and lots of followers).	Can provide the catalyst that can move price to value.
Most Dangerous Delusion	A trader who thinks he is trading based on value.	A value investor who thinks he can reason with markets or lecture them on how they should price assets.

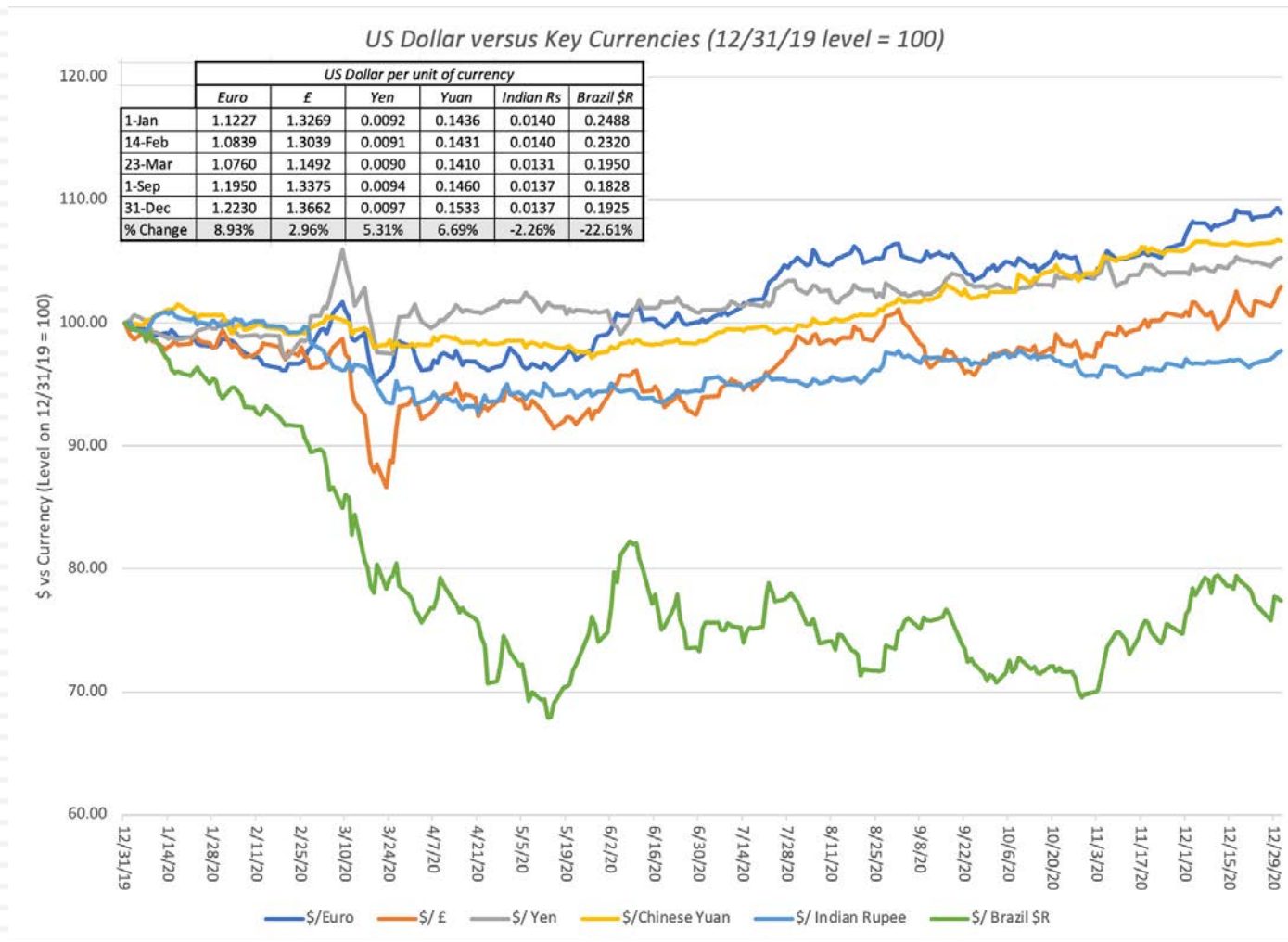
Commodities in 2020:: Oil and Copper



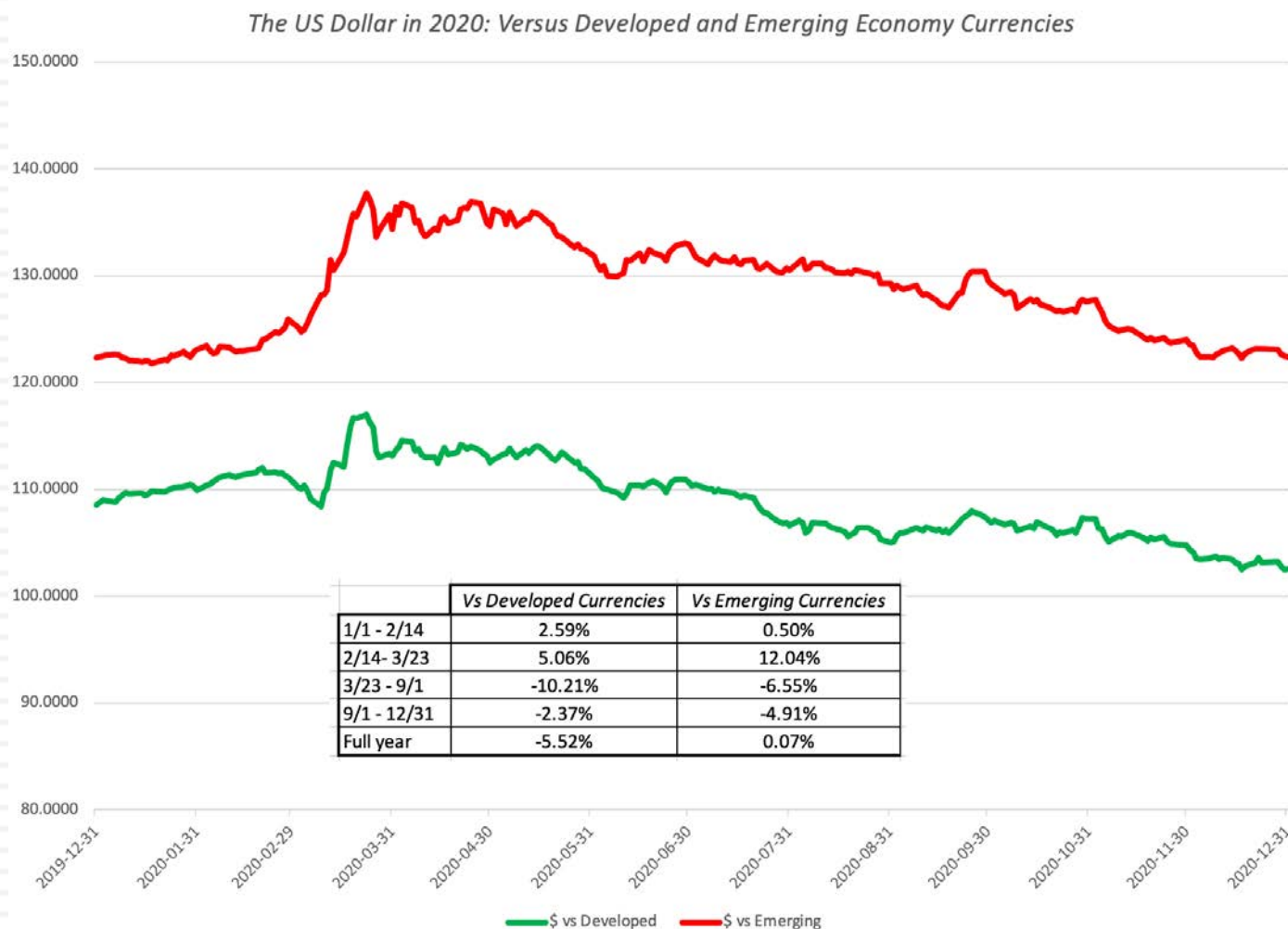
Commodities in 2020: Broader Indices



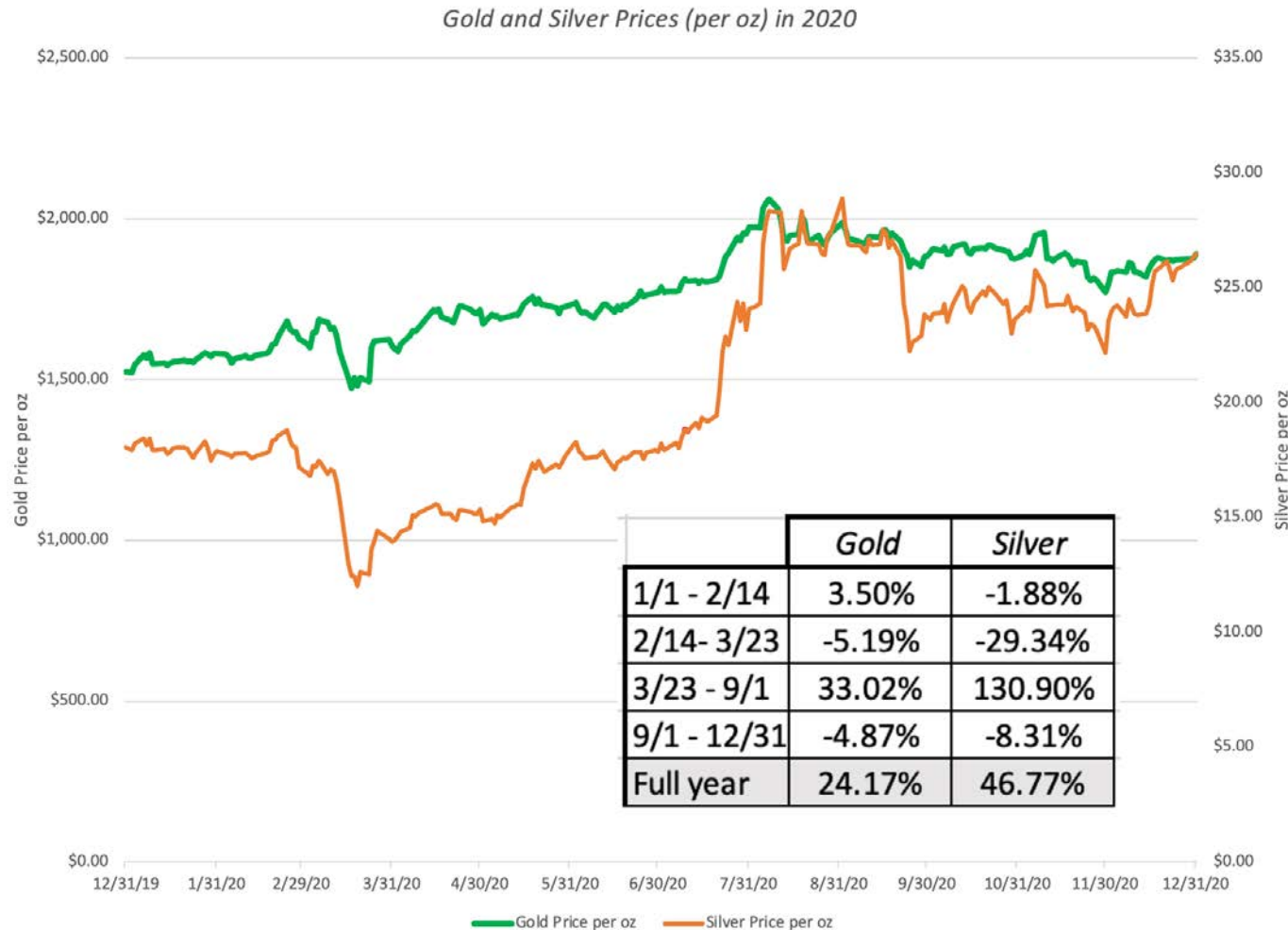
Currencies in 2020: US \$ vs Key Currencies



Currencies in 2020: Broader Indices



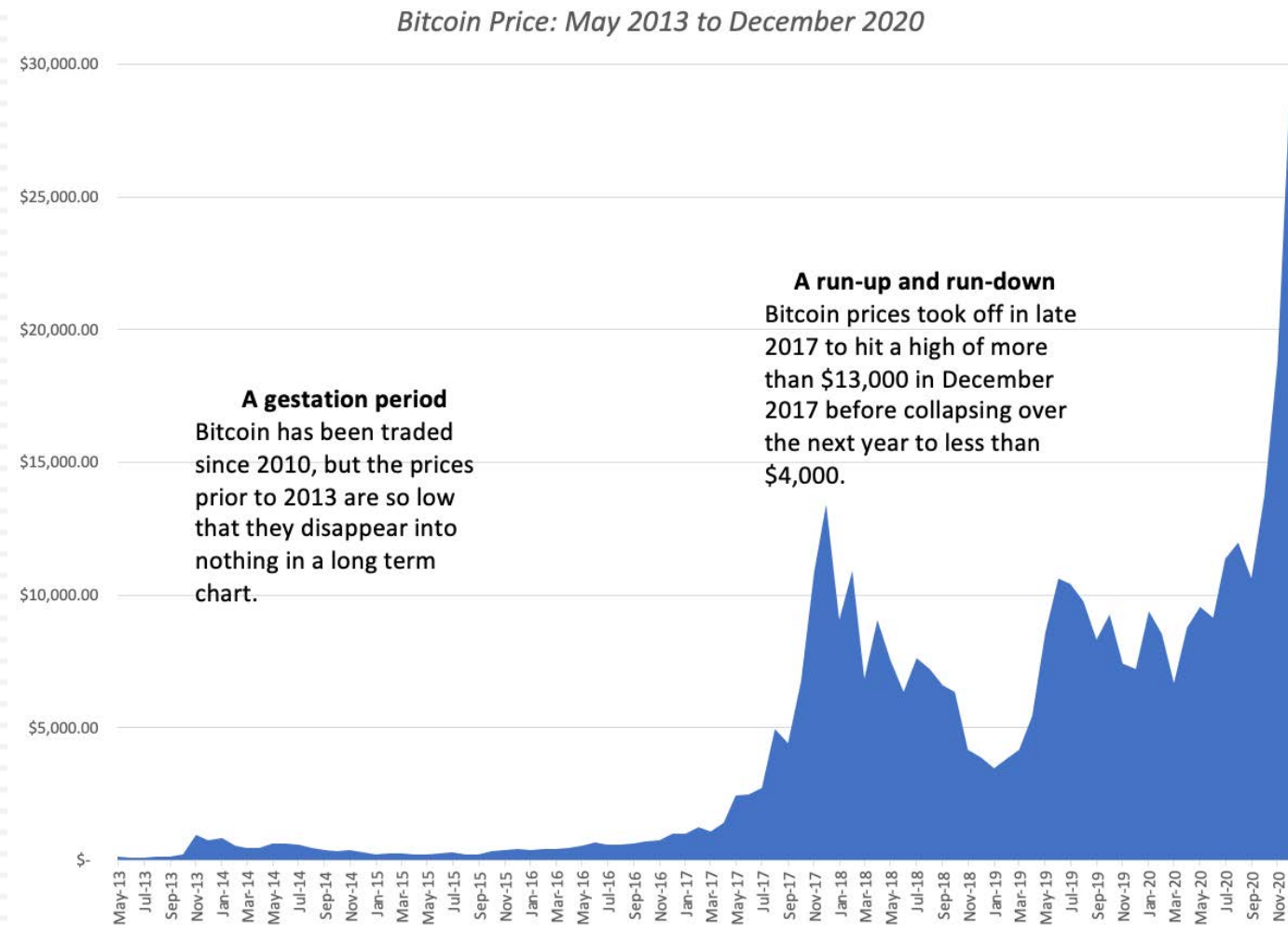
Collectibles in 2020: Gold & Silver



And other collectibles...

- ❑ The year (2020) had mixed effects on other collectible markets.
- ❑ Fine art, for itself, built around in-person auctions of expensive art works saw sales plummet in the early months of 2020, as shutdowns kicked in, but saw a surge of online auctions towards the end of the year. Notwithstanding this development, overall sales of art dropped in 2020, and transactions decreased, especially in the highest-priced segments.
- ❑ It is difficult to tell how much the pricing of individual art pieces was affected, since the owners of this art tend to pull it back from the market during down periods, rather than sell at lower prices.

Cryptos: The Bitcoin Story

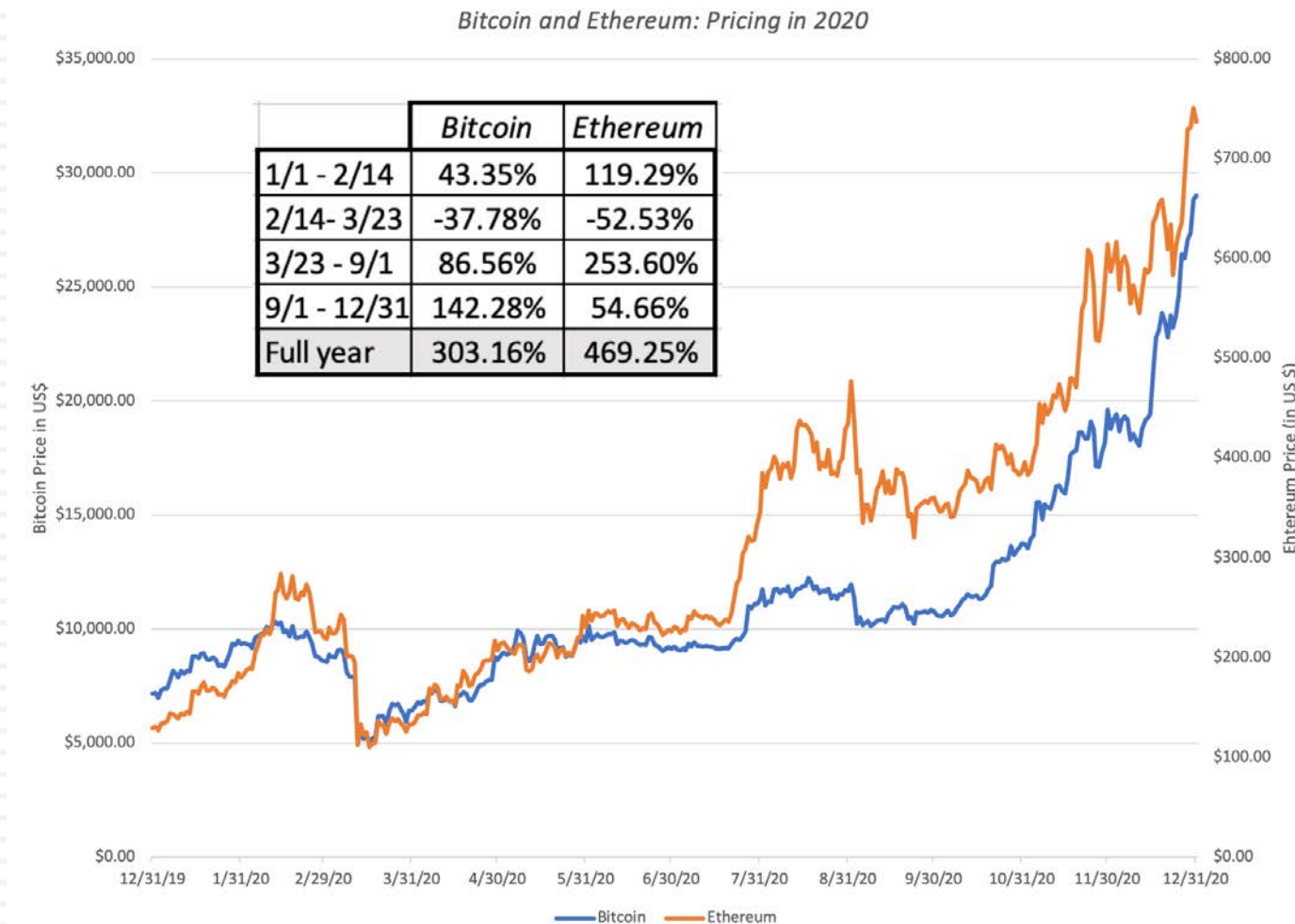


What is bitcoin? My views...

- **Bitcoin is not an asset.** You can create securities denominated in bitcoin that have contractual or residual cash flows, but it is the contractual claim that is the asset, not bitcoin.
- **Bitcoin is not a commodity.** It is true that block chains are finding their way into different segments of the economy and that the demand for block chains may grow exponentially, but bitcoin does not have a proprietary claim to block chain technology
- **Bitcoin is a currency, but it is not a very good one:** Bitcoin's acceptance remains narrow and limited. There are simple reasons why it has not acquired wider acceptance.
 - ▣ It is inefficient, with transactions times and costs remaining high.
 - ▣ The wild volatility makes both buyers and sellers more reluctant to use it in transactions.
 - ▣ With an absolute limit in numbers, it is destined for deflation in steady state, in economies with real growth.

As a "dark" markets currency, it will be a niche currency, constantly on the run from regulators.
- **Bitcoin is a collectible, but with a question mark on longevity:** I have described Bitcoin as millennial gold, but there are two issues that they need to confront.
 - ▣ It has limits on quantity, that assumes that it has no substitutes.
 - ▣ The second is whether the desirability of bitcoin will endure, since much of it is built on its past price performance.

The 2020 Experience



Bitcoin's future

- Does that mean that we are headed for a correction in one or both of these cryptos? Not necessarily, since momentum is a dominant force, and while momentum can and will break, the catalysts for that to happen are not obvious in either Bitcoin or Ethereum, precisely because they are unformed.
- Since the end game (currency or collectible?) is still being hashed out, there are no markers against which progress is being measured, and thus, no disappointments or surprises that will lead to a reassessment.
- Put simply, if you don't know where Bitcoin is going, how would you know if it is getting there? Let me suggest that this confusion serves the interests of bitcoin traders, keeping its prices volatile, but it comes at the expense of bitcoin's long-term potential as a currency or collectible, which require more stability.

Investment Lessons

- Every investing class starts with a discourse on diversification, an age-old lesson of not putting your eggs in one basket, and spreading your bets. In the last few decades, a combination of modern portfolio theory and data access has quantified this search for stability into a search for uncorrelated investments.
- When I was learning investments, admittedly a lifetime ago, I was told to expand my stock holdings to foreign markets and real estate, because their movements were driven by different forces than my domestic stockholdings.
 - That was sensible advice, but as we (collectively as investors) piled into foreign stock funds and securitized real estate, we created an unwanted, but predictable consequence. The correlations across markets rose, reducing the benefits of diversification, and particularly so, during periods of crisis.
 - The co-movement of markets during the 2008 crisis has been well chronicled.

Correlations in 2020

	Equities				Treasuries		Corporate Bonds			Commodities			Currencies		Precious Metals		Cryptos		Real Estate
	S&P 500	S&P 600	S&P Euro 350	S&P Em Mkt BMI	3 month T.Bill	10-yr T.Bond	AAA	BBB	CCC & lower	Brent Crude	Copper	S&P WCI	\$ vs Developed	\$ vs Emerging	Gold Price per oz	Silver Price per oz	Bitcoin	Ehtereum	S&P Real Estate
S&P 500	1.0000																		
S&P 600	0.8885	1.0000																	
S&P Euro 350	0.7047	0.7379	1.0000																
S&P Em Mkt BMI	0.5991	0.5697	0.6261	1.0000															
3 month T.Bill	-0.0576	-0.0759	-0.0736	-0.0982	1.0000														
10-yr T.Bond	-0.4780	-0.4568	-0.4007	-0.2907	0.1300	1.0000													
AAA	0.4652	0.4229	0.4343	0.5591	-0.0649	-0.2957	1.0000												
BBB	0.4825	0.4362	0.4679	0.5321	-0.0689	-0.3043	0.7765	1.0000											
CCC & lower	0.6010	0.5993	0.6544	0.5703	-0.0975	-0.4074	0.5661	0.6867	1.0000										
Brent Crude	0.3340	0.2770	0.3502	0.3454	-0.0607	-0.2029	0.1303	0.1865	0.2768	1.0000									
Copper	0.3681	0.3807	0.4359	0.3812	-0.0943	-0.1952	0.2710	0.3155	0.3742	0.3301	1.0000								
S&P WCI	0.3949	0.3858	0.4334	0.4465	-0.1079	-0.2536	0.2870	0.3608	0.3901	0.6676	0.3835	1.0000							
\$ vs Developed	-0.1718	-0.2315	-0.2863	-0.2767	0.0805	-0.1883	-0.2850	-0.3608	-0.3423	-0.0935	-0.3899	-0.1296	1.0000						
\$ vs Emerging	-0.5381	-0.5659	-0.6338	-0.4779	0.0728	0.2579	-0.3987	-0.5496	-0.6486	-0.2640	-0.4768	-0.3916	0.5965	1.0000					
Gold Price per oz	0.1704	0.1069	0.1341	0.2228	0.0173	-0.0458	0.1932	0.1814	0.1132	0.0957	0.1251	0.0717	-0.2234	-0.1914	1.0000				
Silver Price per oz	0.2375	0.2082	0.2092	0.3345	-0.0620	-0.1302	0.2124	0.2752	0.2452	0.1181	0.1936	0.1949	-0.3116	-0.3229	0.7740	1.0000			
Bitcoin	0.4291	0.4223	0.4101	0.3439	-0.0362	-0.0708	0.1234	0.1142	0.2584	0.2091	0.1660	0.2992	-0.2172	-0.3194	0.1029	0.1550	1.0000		
Ehtereum	0.4496	0.4264	0.3816	0.3283	0.0248	-0.0831	0.1292	0.1375	0.2889	0.1868	0.1647	0.2608	-0.1912	-0.2930	0.1221	0.1693	0.8478	1.0000	
S&P Real Estate	0.8923	0.8492	0.6301	0.5237	-0.0101	-0.4441	0.4808	0.5154	0.6085	0.2655	0.2985	0.3216	-0.1981	-0.5263	0.1965	0.2619	0.3460	0.3674	1.0000