Kerrisdale Capital

March 2024

Long BTC / Short MicroStrategy Inc (MSTR)

Know When to HODL, Know When to FODL

We are long bitcoin and short shares of MicroStrategy, a proxy for bitcoin which trades at an unjustifiable premium to the digital asset that drives its value. Shares of MicroStrategy have soared amid a recent rise in the price of bitcoin but, as is often the case with crypto, things have gotten carried away. The bitcoin price currently implied by MicroStrategy's stock is now over *$177k*, i.e., *two and a half times* the spot price of bitcoin. The days when MicroStrategy shares represented a rare, unique way to gain access to bitcoin are long over. Bitcoin is now easily obtainable through brokerages, crypto exchanges, and more recently low fee ETPs and ETFs. None of the reasons commonly provided for MicroStrategy's relative attractiveness justify paying well over double for the same coin. MicroStrategy's trading history and basic common sense suggests the current inflated premium will contract, much as it has on prior occasions, providing a compelling opportunity for a pair trade.

MicroStrategy bills itself as a bitcoin development company. Its steady but sleepy software analytics business constitutes only 3% of the total enterprise value of the company. MicroStrategy's value is driven by its bitcoin holdings, which were acquired predominantly though debt financings, equity linked convertible notes, and ATM equity offerings. Bulls tout management's "intelligent" use of leverage and accretive bitcoin purchases from equity sales proceeds as reasons why shares should trade at a substantial premium. But we find the logic flawed. Leverage cuts both ways and while MicroStrategy has succeeded in increasing the amount of bitcoin held, the impact of massive dilution has also kept the amount of bitcoin per share virtually unchanged in recent years. Shareholder value creation has been overwhelmingly driven by simple bitcoin price appreciation – much as it would from owning bitcoin outright.

Other reasons cited for a substantial premium such as the ability to reinvest cash flows from the software business into bitcoin, lack of management fees, liquidity, and ease of trading all strike us as weak. Free cash flow from the software business was only $10m in 2023, enough to tack on 0.1% more bitcoin to MicroStrategy's current holdings. The lack of management fee might be relevant if ETP management fees were 2% and the premium to spot in MicroStrategy was a modest 10%. But ETP fees are in fact only 0.25%, as is the case with BlackRock's IBIT and Fidelity's FBTC, and the NAV premium is *157%*. IBIT, FBTC, and a raft of other vehicles offer liquidity and ease of trading that will only grow in number globally. These developments bode well for bitcoin, but represent a secular threat to MicroStrategy's scarcity value and bloated NAV.

At 2.6x, MicroStrategy's equity premium is exceptionally high. Since the beginning of 2021, the premium has been 2.0x or below on 94% of trading days. The historical average is 1.3x. Our thesis is not predicated on a bearish view of bitcoin or MicroStrategy, but rather a belief that the relationship between the two has grown distorted. Assuming the premium to NAV reverts to more historically consistent averages implies a 50% return.

Investment Overview

Capitalization and Sum-of-Parts

$ Millions except per share data	
MSTR share price	$1,919
Diluted shares (1)	19.9
Market capitalization	**$38,131**
6.125% secured notes due Jun '28	500
0.750% conv. notes due Dec '25 ($397.99 strike)	650
0% conv. notes due Feb '27 ($1,432.46 strike)	1,050
0.625% conv. notes due Mar '30 ($1,497.68 strike)	800
0.875% conv. notes due Mar '31 (2,327.21 strike)	604
Total debt	3,604
Less: In-th-money convertible notes (1)	(2,500)
Less: unrestricted cash	(47)
Adj. net debt	**1,057**
Adj. enterprise value	**$39,188**
2023A EBITDA	**$85**
less: capex	(3)
less: cash paid for interest	(41)
less: cash taxes	(30)
2023A free cash flow	**$10**

Sum-of-Parts	
Current MSTR EV (actual)	**$39,188**
Less:	
'24E consensus software sales	$500
EV / sales	2.5x
Software EV	**$1,250**
Implied value of MSTR BTC holdings	**$37,938**
BTC value as % of total	97%
MSTR bitcoin value @ spot	
BTC holdings	214,246
BTC spot price	$68,900
Actual current value of MSTR BTC	**$14,761**
Premium / (discount) to NAV	157%
as a multiple	2.6x
BTC price implied by MSTR shares	**$177,076**

Source: Kerrisdale analysis and MSTR SEC form 10-K for fiscal year ended December 31, 2023.

1. *15.0m class A plus 1.96m class B common stock as of February 1, 2024, adjusted for 2.9m shares of class A common stock issuable upon conversion of $650m in-the-money (ITM) 2025 convertible notes ($397.99 conversion price), $1,050m 2027 convertible notes ($1,432.46 conversion price), and $800m 2030 convertible notes ($1,497.68 conversion price). Debt balance adjusted to reflect equity conversion of ITM convertible notes.*

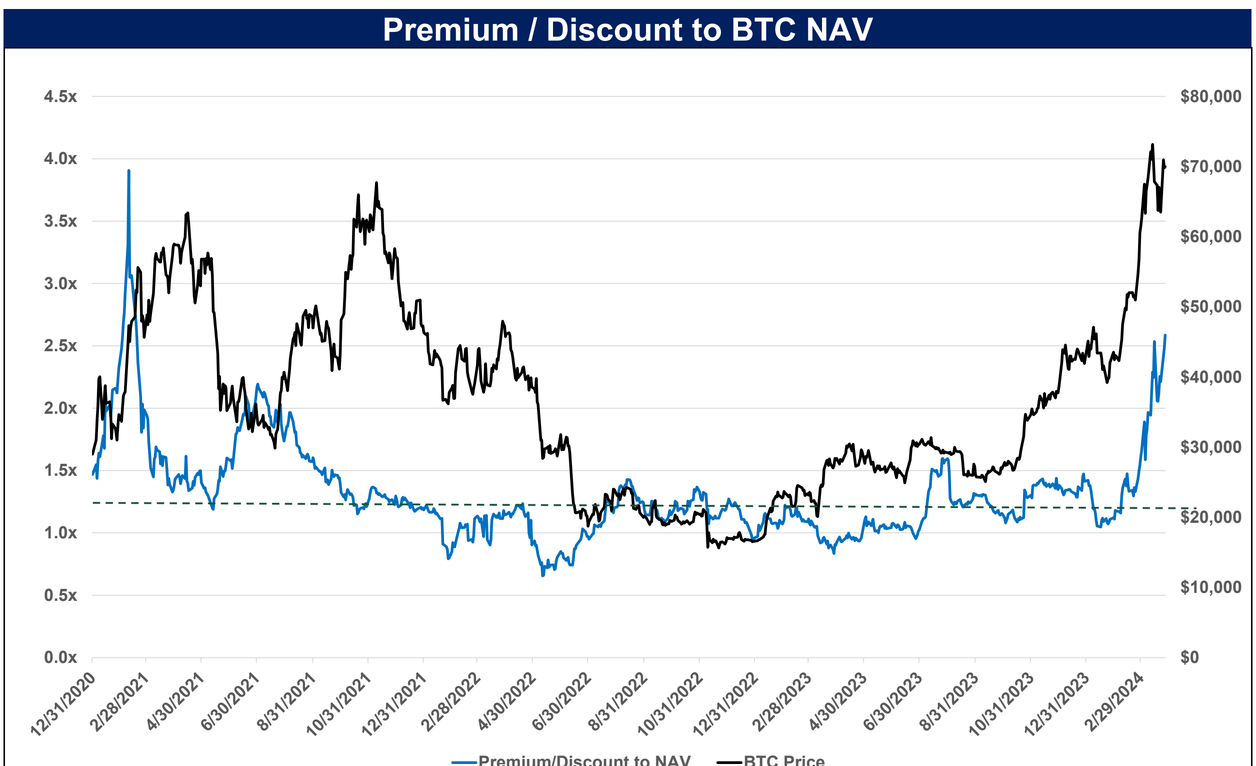
Co-founded in 1989 by CEO Michael Saylor, MicroStrategy is a bitcoin development company committed to using cash flows from its software business and capital markets proceeds to accumulate bitcoin. From August 2020 to 2023, MicroStrategy spent $726m in cash and issued $500m in secured debt, $1.7bn in convertible notes, and $3.1bn in equity to purchase bitcoin. MicroStrategy does not hedge or actively trade bitcoin. Its stated strategy is to opportunistically issue debt and equity when it believes there is an embedded premium to NAV in its stock price to buy bitcoin and HODL. In keeping with this strategy, earlier this month MicroStrategy issued two series of convertible notes totaling $1.4bn in rapid succession, and along with $72m in excess cash (primarily proceeds from ATM equity offerings) promptly purchased 21k bitcoin. The company presently holds just over 214k bitcoin.

Valuing MicroStrategy is a straightforward sum-of-parts exercise with three components: 1) the enterprise software business, 2) the value of the company's bitcoin reserves and, 3) application of a potential premium/discount to total net asset value based on one's view of bitcoin's future prospects and management's ability to drive incremental value versus owning bitcoin itself.

Given the size of its holdings and prevailing price of bitcoin, MicroStrategy's operating business no longer contributes meaningful value to the overall enterprise. MicroStrategy's software business, which provides analytics and business intelligence to a range of industries, operates in a competitive field and has exhibited little to no topline growth for years. Due to rising leverage, it generates little free cash flow (a mere ~$10m in 2023). Valued at $1.25bn (~2.5x consensus 2025E revenue / 12.5x EBITDA), broadly in-line with published sell-side estimates, the business represents only 3% of the total enterprise value of the company ($39bn). Deducting this software value from the total enterprise value of the company leaves an implied value for its bitcoin digital assets of ~$38bn.

$38bn is a *substantial* 2.6x premium to the actual current value of MicroStrategy's bitcoin holdings at spot prices. In effect, MicroStrategy shareholders are now paying $177k per bitcoin when they could instead gain exposure to the asset through any of a growing number of ETPs, brokerages, payment platforms, and exchanges for less than half that. While not unprecedented, this particular level of premium is unusual. In the last 813 trading days for MicroStrategy, on only 51 of those days (6%) has there been a premium to spot above 2.0x. 2.6x is over 1 standard deviation from MicroStrategy's observed average and median the last three years. In the past, this level of premium has been relatively short-lived and we believe the current premium will mean revert to more justifiable historical averages in due course.

Premium to NAV is Grossly Stretched by Historical Standards



BTC NAV Premium / Discount	
Average	1.3x
Median	1.2x
Standard deviation	0.4x
Current	2.6x

Source: Kerrisdale analysis, Bloomberg pricing data, MSTR SEC filings for shares outstanding and bitcoin holdings. BTC NAV calculations include dilutive effect of ITM convertible notes for relevant periods and derived from total enterprise value less $1.25bn valuation for software business. BTC NAV premium/discount calculated as the implied value of BTC divided over the value of the Company's bitcoin holdings at spot bitcoin prices.

The circumstances surrounding MicroStrategy's recent spike in NAV premium are strikingly similar to the move witnessed in February 2021 (lefthand side of above chart). From November 2020 to February 2021, the price of bitcoin tripled from $15k to over $45k, sending shares of MicroStrategy from under $200 to over $1,200. Shares closed at $1,272.94 on February 9, 2021, a BTC NAV premium of 3.9x. Much as it did earlier this month, MicroStrategy wasted little time in tapping the capital markets to exploit this premium, announcing $600m of 0% convertible notes on February 16, 2020. Two days later it upsized the deal to $1.05bn.

What is noteworthy is what happened next.

Despite the price of bitcoin advancing a further 45% over the subsequent two months (topping out over $60k) through early April 2021, MicroStrategy's share price *fell* and the unjustified premium deflated to 1.3x (the 3-year average).

Bitcoin Price and Implied Price in MSTR Stock

Source: Kerrisdale analysis, Bloomberg pricing data, MSTR SEC filings for shares outstanding and bitcoin holdings. BTC NAV calculations include dilutive effect of ITM convertible notes for relevant periods and derived from total enterprise value less $1.25bn valuation for software business.

Premium to NAV is Unjustified

MicroStrategy management and sell-side bulls like Cowen and Canaccord Genuity (both paid as sales agents on the company's equity offerings) have offered several reasons for why MicroStrategy is a unique value proposition deserving of a premium over spot bitcoin. These include the ability to deploy operating cash flow for additional bitcoin purchases, lack of management fees, liquidity/ease of access, "intelligent" leverage, and the benefit of accretive equity issuance. While we concede that *some* equity value premium to spot can be argued, none of them support the current 160%.

First, it is worth noting that none of these proffered reasons are particularly new. MicroStrategy has benefited from these reasons in one form or another since adopting its bitcoin accumulation strategy in 2020 and none have resulted in a premium above 2.0x for any sustained length of time. Second, none appear to be improving directionally. For instance, cash flows from the operating business – which generated only ~$10m of levered FCF last year (enough to buy an amount of bitcoin equal to 0.1% of current holdings) – are decreasing in ratio to the bitcoin holdings over time.

Lack of management fees is also often cited as a compelling reason to own MicroStrategy stock versus an ETP like BlackRock's IBIT or a bitcoin trust like GBTC. But here again, the benefits don't add up to paying 2.6x NAV. IBIT (post introductory waiver period) and Fidelity's Wise Origin Bitcoin Fund (FBTC) along with several others currently feature fees of just 0.25%. If the NAV premium was modest, say 10%, avoiding .25%-1.00% management fees over the long-term might be a legitimate reason to pay up for MicroStrategy. At a 160% premium, however, the fee difference is moot. One would have to be trying to avoid *hundreds of years'* worth of fees for the tradeoff to be worthwhile.

IBIT and FBTC alone trade billions of dollars' worth per day affording ample liquidity to even the largest of institutional investors. The number of these funds will continue to proliferate on a global basis, allowing foreign investors greater access to bitcoin. While MicroStrategy could offer liquidity and access to bitcoin for certain equity investors prior to the advent of these funds earlier this year, that is no longer the case.

The final reasons cited for a premium to spot involve management's savvy use of capital markets. While management is quick to promote the amplification of returns as the price of bitcoin rises, it is important to remember that leverage cuts both ways. The hypothetical "illustrative" scenarios provided below by the company focus on only higher prices and downplay mention of what happens when prices decline in the fine print.

MSTR provided Illustrative Leverage Scenarios

MicroStrategy Bitcoin Net Asset Value

Hypothetical scenarios in which bitcoin price increases – Illustrative

Bitcoin Forward Price	$43,000	$69,000	$100,000	$250,000
Spot Bitcoin Price	-	60%	135%	480%
MSTR (Current Leverage)	-	85%	180%	660%
MSTR (Incremental $0.5B Leverage)	-	90%	190%	700%
MSTR (Incremental $1.0B Leverage)	-	95%	205%	740%

Note: Rounded to the nearest 5% up or down. Leverage levels set forth above are provided for illustrative purposes only and do not reflect any current plans of the Company. Percentage amounts above refer to the mathematical outputs only based solely on the underlying assumptions and are not a projection or prediction of future bitcoin prices or underlying bitcoin net asset values. Scenarios in which the bitcoin forward price is less than $43,000 would result in a proportionate decrease in bitcoin net asset value.

Assumptions: Bitcoin Net Asset Value = Bitcoin Holdings Market Value less Total Outstanding Debt.
No change to MSTR share count, no conversion of outstanding convertible debt, ignores interest on debt for simplification of mathematical exercise, no indication on the time frame for the forward bitcoin price or debt maturity, excludes software business. Incremental leverage scenarios assume that MSTR is able to issue the additional debt and invest the proceeds in bitcoin at market prices as of February 5, 2024.

Source: MicroStrategy Q4 2023 earnings presentation.

Even MicroStrategy's own scenarios do not justify a 2.6x premium. At $250k for the price of bitcoin and $1bn in incremental leverage, the returns are not over twice that of spot. For example, $1 invested at a bitcoin spot price of $43k would be worth $5.80 at $250k (the 480% indicated in the table). With the benefit of leverage, the dollar invested would be worth $8.40 (the 740% gain shown). The benefit of leverage results in 1.5x the gain from holding spot, well short of the current premium.

Crucially, the percentage gains shown in the table ignore the impact of dilution. The table above was before $1.4bn of convertible notes were issued in March, $800m of which are now in-the-money. After already incurring $3.6bn in gross debt (largely in convertible notes at low coupons), MicroStrategy's software business no longer generates sufficient levered free cash flow to support new regular interest-bearing corporate debt. In theory, MicroStrategy has ample capacity to borrow directly against its bitcoin holdings, but service and repayment of this debt then potentially involves selling bitcoin – which dampens the impact of using proceeds to HODL bitcoin.

In light of this, MicroStrategy's has turned to aggressive issuance of hybrid securities and large ATM offerings, both of which have succeeded in the objective of increasing bitcoins owned, but their dilutive impact has resulted in little improvement in the amount of bitcoins owned *per diluted share* (see table below). Shareholder value creation on a per share basis has been driven by bitcoin price appreciation, which most investors can replicate in an instant without paying 2.6x spot.

No Growth in Bitcoin per Diluted Share					
	Current	**6/30/2023**	**12/30/2022**	**6/30/2022**	**12/30/2021**
BTC holdings	214,246	152,333	132,500	129,699	124,391
Diluted shares (mm)	19.9	13.0	11.3	11.3	12.0
BTC per mil diluted shares	10,783	11,755	11,707	11,480	10,374
Change	-8%	0%	2%	11%	

Source: Kerrisdale analysis, MSTR SEC filings. Diluted shares include dilutive impact of in-the-money convertible notes.

Conclusion

At the current MicroStrategy stock price, assigning $1.25bn for the value of the software business, and assuming the full dilutive impact of all currently in-the-money convertible notes, we estimate every 10% change in BTC drives an initial ~9% change in MicroStrategy's implied equity value per share. Assuming the current premium of 2.6x contracts to a more historically consistent 1.3x represents 50% downside in MSTR relative to bitcoin.

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