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| A white and orange bitcoin sign  AI-generated content may be incorrect. A blue cloud with white lines and dots  AI-generated content may be incorrect.  Bitcoin Lightning Bank Case Study V4  The Decentralized Strategy | Abstract  The Bitcoin Compound Annual Growth Rate (CAGR) was 76.93% over a 10-year timespan from January 1, 2015, to January 1, 2025. Institutions are investing into Bitcoin Exchange Traded Funds (ETFs) which shoulder all the Bitcoin volatility, while many corporations are implementing creative fund-raising initiatives referred to as “accretive dilution” to sell shares and purchase Bitcoin for their Bitcoin Treasury. In August 2020, MicroStrategy (now Strategy) made news headlines of their Bitcoin accumulation initiative. In recent years, many Bitcoin Treasury Companies have followed in Strategy’s footsteps however they are all highly centralized entities that use traditional financial products in traditional markets. Bitcoin Lightning Banks have a substantial competitive advantage to the industry by integrating all borrowing and lending products into the Bitcoin Layer 2 Lightning Network, which offers an open, global, and instantaneous settlement layer to provide superior yield while receiving revenue generating service fees. This case study shines a light on the massive potential that a Bitcoin Lightning Bank has when fusing Bitcoin and innovative Lightning Network technologies with traditional markets to challenge the status quo. Additional research and development are required to prove the feasibility of a Lightning Bank; however, I believe that it is not out of reach for those willing to put in the effort and resources.  Kyle Hutchinson |

A diagram of a diagram

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| Feature Comparison | Bitcoin Treasury Companies and Bitcoin Banks | Bitcoin Lightning Banks |
| Financial Products | Centralized Finance (CeFi) | Centralized and Decentralized Finance (CeFi & DeFi) |
| Financial Rails | Traditional | Traditional and the Bitcoin Lightning Network |
| Financial Management | Custodial | Custodial and non-custodial |
| Financial Markets | National market limitations | DeFi is globally accessible |
| Interest Rate Makers | Company | DeFi is an open and free market |
| Bitcoin Participants | Company | Bank, Fiat Investors, and Bitcoin Investors |
| Bitcoin Yield Distribution | **Concentration within Company** | **Distributed fairly between market participants** |
| Bitcoin Liquidation Risk | **Concentration within Company** | **Distributed between Stable Providers** |
| Bitcoin Liquidation Priority | **Bond holders are paid first** | **Bank is paid first by liquidated Stable Providers** |
| Bitcoin Service Fees | **None** | **Bitcoin-denominated liquidity service fees** |
| Bitcoin Strategy Tools | **Profit, Stock, Debt, and Bitcoin Treasury** | **Same + Bitcoin TVL to defend Bitcoin Treasury** |
| Bitcoin Total Value Locked Growth Rate | **CeFi = 1 Bitcoin buy adds 1 Bitcoin to BTC TVL**  **500K BTC buys 500K BTC TVL in Custody** | **DeFi = 1 Bitcoin buy adds 2 Bitcoin to BTC TVL**  **500K BTC buys 1M BTC TVL in Lightning Network** |

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| Bitcoin Lightning Bank Stable Bonds | |
| Flexible Rates | Fixed or variable rates based on percentage of stable Fiat or Bitcoin CAGR |
| Tax-Deductible | Interest payments are tax-deductible bank expenditures |
| Securable | Bitcoin is stored in unique Stable Channels to extract yield |
| Callable | If Bitcoin overperforms then the bond can optionally be paid back |
| Extendible | If Bitcoin underperforms then the bond can optionally be extended |
| Non-Convertible | Share dilution is not necessary due to the superior yield |

**A diagram of a mathematical equation

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| Use Cases | | Centralized Finance (CeFi) | Decentralized Finance (DeFi) | | |
| **Custodial** | **Non-Custodial Stable Receiver** | **Non-Custodial Stable Provider** | **Non-Custodial** |
| Stable Channel | Stable Receiver | Lightning Bank | Fiat Investors | Lightning Bank | Fiat Investors |
| Stable Provider | Lightning Bank | Lightning Bank | Bitcoin Investors | Bitcoin Investors |
| Lightning Bank | Goal | Store Bitcoin that was procured from liabilities (ex: bonds, preferred stock) into a Stable Receiver and/or Bitcoin Treasury into a Stable Provider then provide liquidity services to extract and distribute yield | | | Provide liquidity services to extract and distribute yield |
| Fiat Investor | Goal | Purchase TradFi products to earn interest or dividends | Self-custody Bitcoin in Stable Channel for greater control | **Purchase TradFi products to earn interest or dividends** | **Self-custody Bitcoin in Stable Channel for greater control** |
| Risk | Low | Low | **Low** | **Low** |
| Reward | High | High | **Maximum** | **Maximum** |
| Bitcoin Investor | Goal | Send Bitcoin to Lightning Bank to manage the 2X Leverage Long Stable Channel while maintenance is required to avoid liquidation | | **Self-custody Bitcoin in 2X Leverage Long Stable Channel while maintenance is required to avoid liquidation** | |
| Risk | High | High | **High** | **High** |
| Reward | High | High | **Maximum** | **Maximum** |

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| Bitcoin Strategy | Create and Accumulate in Breadth | Defend in Depth |
| Bitcoin Lightning Stable Bonds | Bank sells bonds to Fiat or Bitcoin Investors then buys Bitcoin on their behalf and deposits into a custodial portion of a Lightning Network Stable Channel to grow Bitcoin Lightning TVL and earn yield | Mitigate risks by implementing market optimization techniques. If Bitcoin overperforms then the bank closes the Stable Channel and sells remaining Bitcoin to pay back the bond. If Bitcoin underperforms then the bank can either extend the bond or buy it out. |
| Bitcoin Lightning Stable Deposits | Bank provides service for Fiat or Bitcoin Investors to deposit owned Bitcoin into a non-custodial portion of a Lightning Network Stable Channel to grow Bitcoin Lightning TVL and earn yield | Mitigate risks during Bitcoin drawdowns by ensuring Bitcoin Investors either top-up their positions or face liquidation to the Bank |
| Bitcoin Lightning Revenue | Bank receives Lightning Network service fees to grow Bitcoin Lightning TVL and earn yield as a Stable Balancer or Stable Provider | Mitigate risks by earning Bitcoin revenue from products and services |
| Bitcoin Lightning Total Value Locked | Bank enables custodial and non-custodial access to Lightning Network Stable Channels & Enterprise Channels to earn yield and grow Treasury or Operations | Mitigate risks during Bitcoin drawdowns by ensuring Bitcoin Investors either top-up their positions or face liquidation to the Bank |
| Preferred Shares | Bank sells Preferred Shares to buy Bitcoin and grow Bitcoin Lightning TVL and earn yield as a Stable Receiver | Mitigate risks by allocating revenue to Stable Receivers so that Bitcoin Yield covers dividend then shares bought back when channel closes |
| Common Shares | Bank sells Common Shares to buy Bitcoin and grow Treasury or Operations | **Share dilution is protected by above practices if done efficiently** |
| Bitcoin Treasury | Bank can deposit Bitcoin Treasury into the Bitcoin Lightning TVL to earn yield | **Treasury liquidation is protected by above practices if done efficiently** |

**A diagram of a blockchain

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A screenshot of a computer

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| Stable Channel Life Cycle | | Description |
| 1 | Start or Splice-In Stable Channel | Stable Receiver, Stable Balancer, and Stable Provider add Bitcoin into the Lightning Channel to either initiate the connection or keep it active and just splice-in liquidity. |
| 2 | Upon Bitcoin Price Movement, Send Bitcoin to Stable Balancer | If the Bitcoin price increases, then the Stable Receiver sends Bitcoin to the Lightning Bank Stable Balancer. If the Bitcoin price decreases, then the Stable Provider sends Bitcoin to the Lightning Bank Stable Balancer. |
| 3 | Rebalance Stable Receiver and Distribute Yield | Periodically, the Lightning Bank Stable Balancer will send Bitcoin to the Stable Receiver to ensure a stable fiat balance and then distribute Bitcoin Yield if available to all participants based on the pre-defined yield agreements. |
| 4 | Close or Splice-Out Stable Channel | Stable Receiver and Stable Provider remove Bitcoin from the Lightning Channel to either close the connection or keep it active and just splice-out liquidity. |

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| Yield Estimates | Year 1 Start | Year 5 End | | | |  |
| Bitcoin Compound Annual Growth Rate | | **25%** | **30%** | **35%** | **40%** | **45%** |
| 1 Bitcoin USD Value | **$0.10M USD** | **$0.31M USD** | **$0.37M USD** | **$0.45M USD** | **$0.54M USD** | **$0.64M USD** |
| Stable Receiver Balance | 10 BTC | 3.28 BTC | 2.69 BTC | 2.23 BTC | 1.86 BTC | 1.56 BTC |
| $1M USD | $1M USD | $1M USD | $1M USD | $1M USD | $1M USD |
| Stable Provider Balance | 10 BTC | Variable due to market dynamics | | | |  |
| Total Yield | | **6.72 BTC** | **7.31 BTC** | **7.77 BTC** | **8.14 BTC** | **8.44 BTC** |
| **$2.05M USD** | **$2.71M USD** | **$3.48M USD** | **$4.38M USD** | **$5.41M USD** |
| Average Annual Yield | | 1.34 BTC | 1.46 BTC | 1.55 BTC | 1.63 BTC | 1.69 BTC |
| $0.41M USD | $0.54M USD | $0.70M USD | $0.88M USD | $1.08M USD |
| Total Average Annual Yield Percentage | | **13.44% BTC** | **14.62% BTC** | **15.54% BTC** | **16.28% BTC** | **16.88% BTC** |
| **41.02% USD** | **54.28% USD** | **69.68% USD** | **86.56% USD** | **108.20% USD** |
| Average Annual Yield Percentage Allocation | | | | | | |
| Lightning Bank 20% | | **2.68% BTC** | **2.92% BTC** | **3.10% BTC** | **3.26% BTC** | **3.38% BTC** |
| Stable Receiver 30% | | **12.33% USD** | **16.26% USD** | **20.90% USD** | **26.25% USD** | **32.43% USD** |
| Stable Provider 50% | | **6.72% BTC** | **7.30% BTC** | **7.76% BTC** | **8.14% BTC** | **8.44% BTC** |
| Average Annual Yield on 20K Bitcoin Total Value Locked | | | | | | |
| Lightning Bank | | **268 BTC** | **292 BTC** | **310 BTC** | **326 BTC** | **338 BTC** |
| Stable Receivers | | $123.29M USD | $162.63M USD | $208.96M USD | $262.46M USD | $324.33M USD |
| Stable Providers | | 672 BTC | 730 BTC | 776 BTC | 814 BTC | 844 BTC |
| Average Annual Yield on 400K Bitcoin Total Value Locked | | | | | | |
| Lightning Bank | | **5,360 BTC** | **5,840 BTC** | **6,200 BTC** | **6,520 BTC** | **6,760 BTC** |
| Stable Receivers | | $2.5B USD | $3.3B USD | $4.2B USD | $5.3B USD | $6.5B USD |
| Stable Providers | | 13,440 BTC | 14,600 BTC | 15,520 BTC | 16,280 BTC | 16,880 BTC |
| Average Annual Yield on 1M Bitcoin Total Value Locked | | | | | | |
| Lightning Bank | | **13,400 BTC** | **14,600 BTC** | **15,500 BTC** | **16,300 BTC** | **16,900 BTC** |
| Stable Receivers | | $6.2B USD | $8.1B USD | $10.5B USD | $13.1B USD | $16.2B USD |
| Stable Providers | | 33,600 BTC | 36,500 BTC | 38,800 BTC | 40,700 BTC | 42,200 BTC |

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| 10 Year Burndown Yield Estimates | Year 1 | | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 | Year 7 | Year 8 | Year 9 | Year 10 |
| 20% Bitcoin Compound Annual Growth Rate | | |  | | | |  | | | | |
| Annualized Bitcoin Yield | 16.67% | | 13.89% | 11.57% | 9.65% | 8.04% | 6.70% | 5.58% | 4.65% | 3.88% | 3.23% |
| Average Annualized Bitcoin Yield |  | |  |  |  | 11.96% |  |  |  |  | 8.38% |
| Cumulative Bitcoin Yield | **16.67%** | | **30.56%** | **42.13%** | **51.77%** | **59.81%** | **66.51%** | **72.09%** | **76.74%** | **80.62%** | **83.85%** |
| Remaining Bitcoin Yield | **83.33%** | | **69.44%** | **57.87%** | **48.23%** | **40.19%** | **33.49%** | **27.91%** | **23.26%** | **19.38%** | **16.15%** |
| 25% Bitcoin Compound Annual Growth Rate | |  | | | | |  | | | | |
| Annualized Bitcoin Yield | 20.00% | | 16.00% | 12.80% | 10.24% | 8.19% | 6.55% | 5.24% | 4.19% | 3.36% | 2.68% |
| Average Annualized Bitcoin Yield |  | |  |  |  | 13.45% |  |  |  |  | 8.93% |
| Cumulative Bitcoin Yield | **20.00%** | | **36.00%** | **48.80%** | **59.04%** | **67.23%** | **73.79%** | **79.03%** | **83.22%** | **86.58%** | **89.26%** |
| Remaining Bitcoin Yield | **80.00%** | | **64.00%** | **51.20%** | **40.96%** | **32.77%** | **26.21%** | **20.97%** | **16.78%** | **13.42%** | **10.74%** |
| 30% Bitcoin Compound Annual Growth Rate | |  | | | | |  | | | | |
| Annualized Bitcoin Yield | 23.08% | | 17.75% | 13.65% | 10.50% | 8.08% | 6.22% | 4.78% | 3.68% | 2.83% | 2.18% |
| Average Annualized Bitcoin Yield |  | |  |  |  | 14.61% |  |  |  |  | 9.27% |
| Cumulative Bitcoin Yield | **23.08%** | | **40.83%** | **54.48%** | **64.99%** | **73.07%** | **79.28%** | **84.06%** | **87.74%** | **90.57%** | **92.75%** |
| Remaining Bitcoin Yield | **76.92%** | | **59.17%** | **45.52%** | **35.01%** | **26.93%** | **20.72%** | **15.94%** | **12.26%** | **9.43%** | **7.25%** |
| 35% Bitcoin Compound Annual Growth Rate | |  | | | | |  | | | | |
| Annualized Bitcoin Yield | 25.93% | | 19.20% | 14.23% | 10.54% | 7.81% | 5.78% | 4.28% | 3.17% | 2.35% | 1.74% |
| Average Annualized Bitcoin Yield |  | |  |  |  | 15.54% |  |  |  |  | 9.50% |
| Cumulative Bitcoin Yield | **25.93%** | | **45.13%** | **59.36%** | **69.89%** | **77.70%** | **83.48%** | **87.76%** | **90.94%** | **93.29%** | **95.03%** |
| Remaining Bitcoin Yield | **74.07%** | | **54.87%** | **40.64%** | **30.11%** | **22.30%** | **16.52%** | **12.24%** | **9.06%** | **6.71%** | **4.97%** |
| 40% Bitcoin Compound Annual Growth Rate | |  | | | | |  | | | | |
| Annualized Bitcoin Yield | 28.57% | | 20.41% | 14.58% | 10.41% | 7.44% | 5.31% | 3.79% | 2.71% | 1.94% | 1.38% |
| Average Annualized Bitcoin Yield |  | |  |  |  | 16.28% |  |  |  |  | 9.65% |
| Cumulative Bitcoin Yield | **28.57%** | | **48.98%** | **63.56%** | **73.97%** | **81.41%** | **86.72%** | **90.51%** | **93.22%** | **95.16%** | **96.54%** |
| Remaining Bitcoin Yield | **71.43%** | | **51.02%** | **36.44%** | **26.03%** | **18.59%** | **13.28%** | **9.49%** | **6.78%** | **4.84%** | **3.46%** |