

# BITCOIN LIGHTNING BANK

## CASE STUDY V5

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.

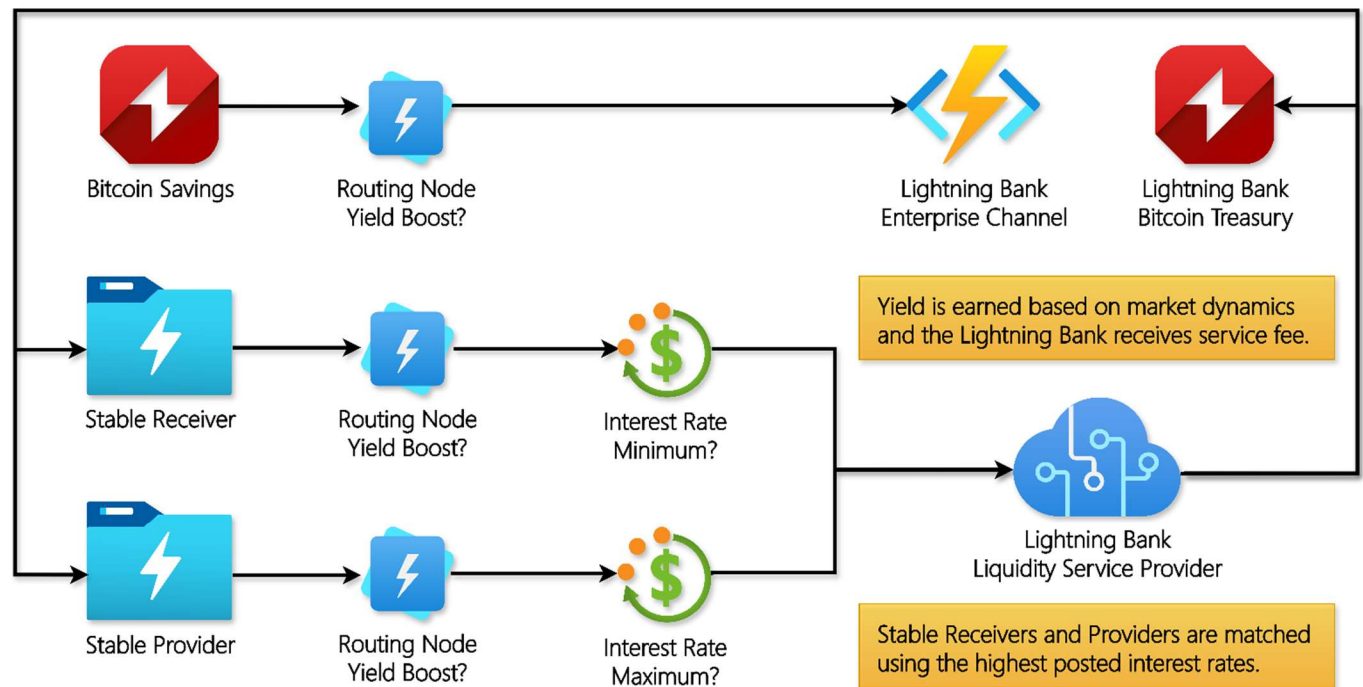
Kyle Hutchinson



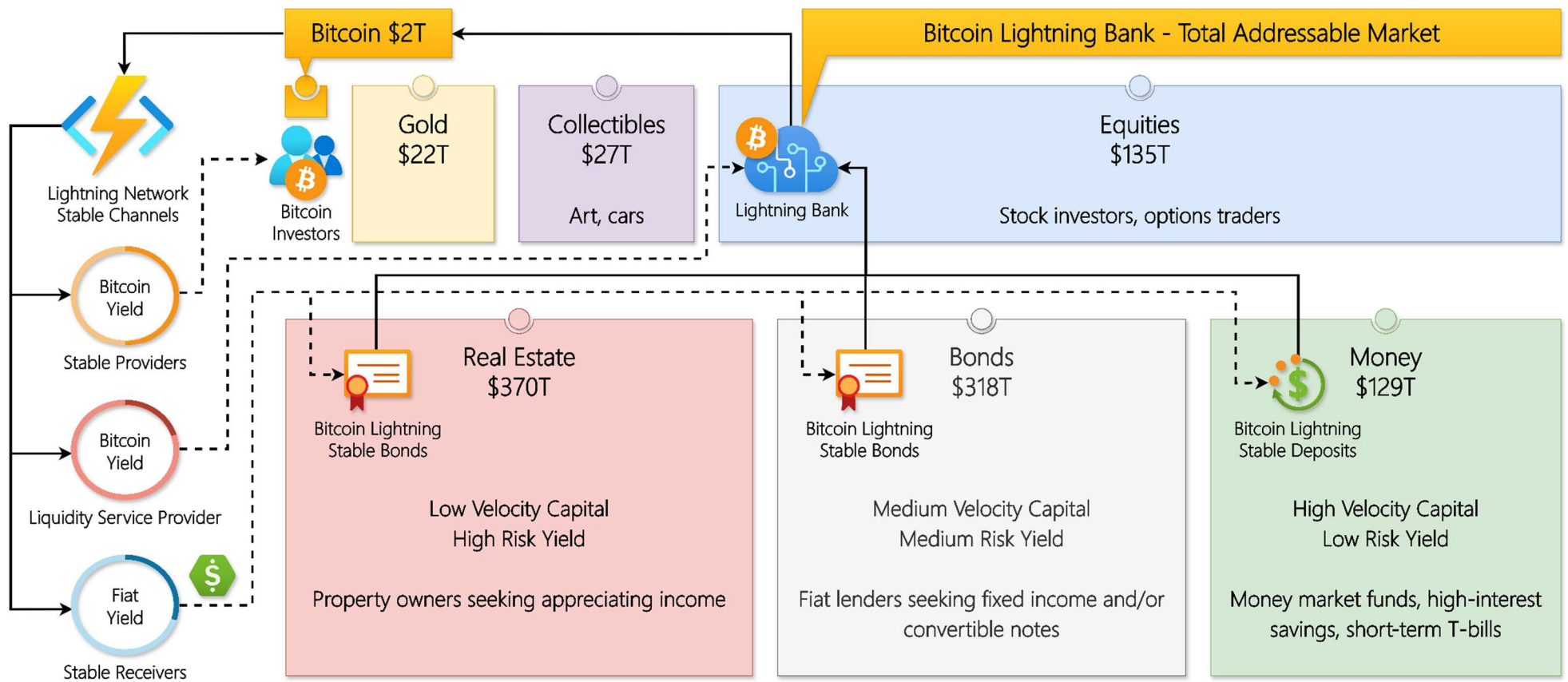
## Bitcoin Lightning Bank Overview and Features

Stable Receivers are Fiat Investors that Buy Bitcoin with Fiat Price Stability to Earn Yield

Stable Providers are Bitcoin Investors that 2X Long Bitcoin to Earn Yield



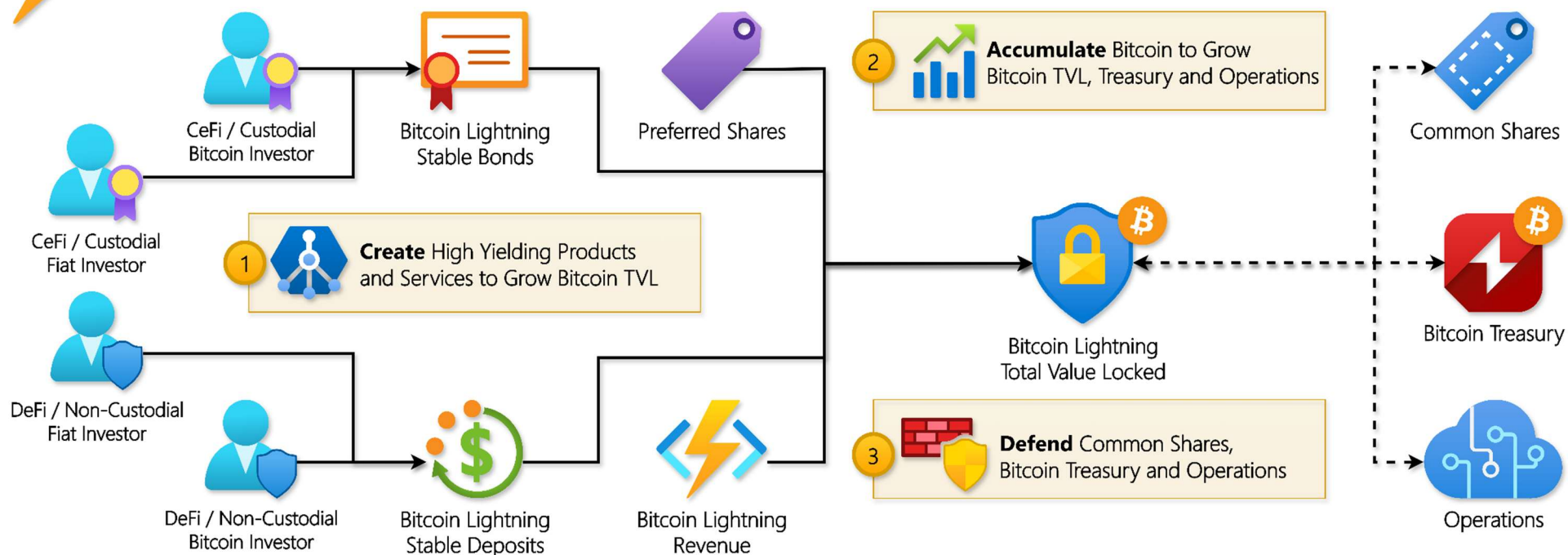
Feature Comparison	Bitcoin Treasury Companies and Bitcoin Banks	Bitcoin Lightning Banks	Bitcoin Lightning Bank Stable Bonds	
Financial Products	Centralized Finance (CeFi)	Centralized and Decentralized Finance (CeFi & DeFi)	Flexible Rates	Fixed or variable rates based on percentage of stable Fiat or Bitcoin CAGR
Financial Rails	Traditional	Traditional and the Bitcoin Lightning Network	Tax-Deductible	Interest payments are tax-deductible bank expenditures
Financial Management	Custodial	Custodial and non-custodial	Securable	Bitcoin is stored in unique Stable Channels to extract yield
Financial Markets	National market limitations	DeFi is globally accessible	Callable	If Bitcoin overperforms then the bond can optionally be paid back
Interest Rate Makers	Company	DeFi is an open and free market	Extendible	If Bitcoin underperforms then the bond can optionally be extended
Bitcoin Participants	Company	Bank, Fiat Investors, and Bitcoin Investors	Non-Convertible	Share dilution is not necessary due to the superior yield
Bitcoin Yield Distribution	<b>Concentration within Company</b>	<b>Distributed fairly between market participants</b>		
Bitcoin Liquidation Risk	<b>Concentration within Company</b>	<b>Distributed between Stable Providers</b>		
Bitcoin Liquidation Priority	<b>Bond holders are paid first</b>	<b>Bank is paid first by liquidated Stable Providers</b>		
Bitcoin Service Fees	<b>None</b>	<b>Bitcoin-denominated liquidity service fees</b>		
Bitcoin Strategy Tools	<b>Profit, Stock, Debt, and Bitcoin Treasury</b>	<b>Same + Bitcoin TVL to defend Bitcoin Treasury</b>		
Bitcoin Total Value Locked Growth Rate	<b>CeFi = 1 Bitcoin buy adds 1 Bitcoin to BTC TVL 500K BTC buys 500K BTC TVL in Custody</b>	<b>DeFi = 1 Bitcoin buy adds 2 Bitcoin to BTC TVL 500K BTC buys 1M BTC TVL in Lightning Network</b>		



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	<b>Purchase TradFi products to earn interest or dividends</b>	<b>Self-custody Bitcoin in Stable Channel for greater control</b>
	Risk	Low	Low	<b>Low</b>	<b>Low</b>
	Reward	High	High	<b>Maximum</b>	<b>Maximum</b>
Bitcoin Investor	Goal	Send Bitcoin to Lightning Bank to manage the 2X Leverage Long Stable Channel while maintenance is required to avoid liquidation			<b>Self-custody Bitcoin in 2X Leverage Long Stable Channel while maintenance is required to avoid liquidation</b>
	Risk	High	High	<b>High</b>	<b>High</b>
	Reward	High	High	<b>Maximum</b>	<b>Maximum</b>



## Bitcoin Lightning Bank - The Ultimate Bitcoin Strategy



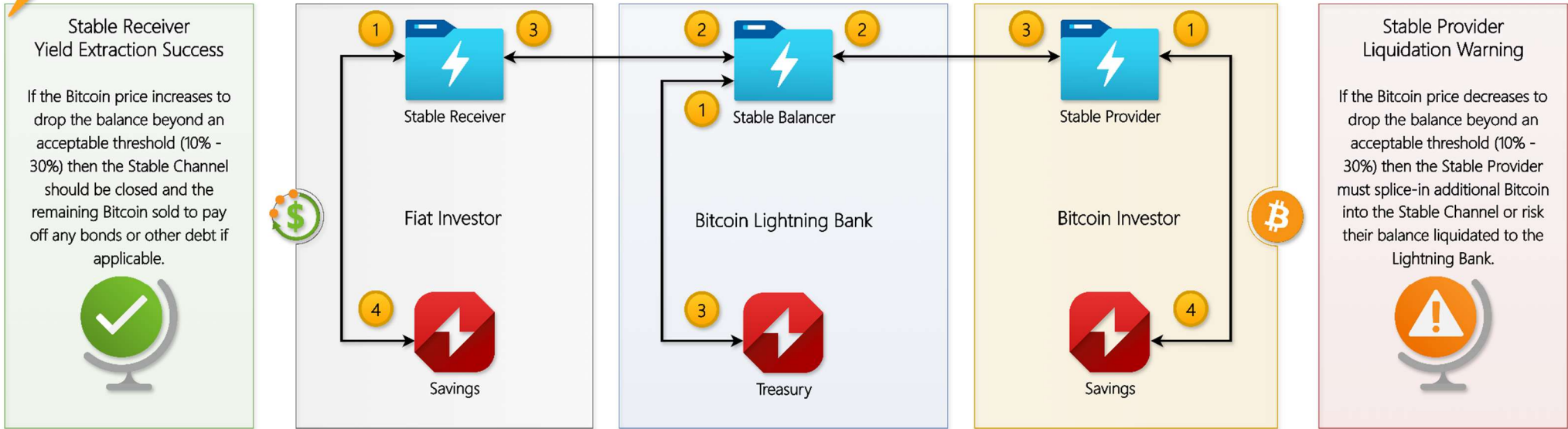
Bitcoin Strategy	Create and Accumulate in Breadth	Defend in Depth
Bitcoin Lightning Stable Bonds	Bank sells bonds to Fiat or Bitcoin Investors then buys Bitcoin on their behalf and deposits into a custodial portion of a Lightning Network Stable Channel to grow Bitcoin Lightning TVL and earn yield	Mitigate 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	<b>Share dilution is protected by above practices if done efficiently</b>
Bitcoin Treasury	Bank can deposit Bitcoin Treasury into the Bitcoin Lightning TVL to earn yield	<b>Treasury liquidation is protected by above practices if done efficiently</b>







# Bitcoin Lightning Bank - Stable Channel Life Cycle



The Lightning Bank Stable Balancer is an intelligent automated market maker (AMM) that maintains a liquidity pool to splice in and out of the Lightning Channels between a Stable Receiver and Stable Provider so that the Stable Receiver has a guaranteed stable Fiat balance backed by Bitcoin.

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.

Yield Estimate Variables	
Bitcoin USD Price Start	\$0.10 M
Bitcoin Compound Annual Growth Rate	30%
Stable Receiver Yield Allocation	40.00%
Stable Provider Yield Allocation	40.00%
Stable Balancer Yield Allocation	20.00%
Total Yield Allocation	100.00%

Bitcoin Lightning Bank - The Decentralized Strategy							
Pairing Bitcoin Investors with Fiat Investors for Yield Extraction							
Bitcoin Compound Annual Growth Rate Calculator						CAGR	76.93%
Start Price	\$314.25	Start Date	2015-01-01	End Price	\$94,443.52	End Date	2025-01-01

Yield Estimate Calculator	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	
Stable Receiver Balance	USD is fixed regardless on market dynamics. Bitcoin is variable depending on market dynamics.										
Stable Provider Balance	USD and Bitcoin is variable depending on market dynamics.										
Bitcoin USD Price	\$0.13 M	\$0.17 M	\$0.22 M	\$0.29 M	\$0.37 M	\$0.48 M	\$0.63 M	\$0.82 M	\$1.06 M	\$1.38 M	
Bitcoin USD Marketcap	\$2.73 T	\$3.55 T	\$4.61 T	\$6.00 T	\$7.80 T	\$10.14 T	\$13.18 T	\$17.13 T	\$22.27 T	\$28.95 T	
Cumulative BTC Yield %	23.08%	40.83%	54.48%	64.99%	73.07%	79.28%	84.06%	87.74%	90.57%	92.75%	
Remaining BTC Yield %	76.92%	59.17%	45.52%	35.01%	26.93%	20.72%	15.94%	12.26%	9.43%	7.25%	
Annual BTC Yield %	23.08%	17.75%	13.65%	10.50%	8.08%	6.22%	4.78%	3.68%	2.83%	2.18%	
Average Annual BTC Yield %						14.61%					9.27%
Fiat Investor / Stable Receiver											
Annual BTC Yield %	9.23%	7.10%	5.46%	4.20%	3.23%	2.49%	1.91%	1.47%	1.13%	0.87%	
Average Annual BTC Yield %						5.85%					3.71%
Annual 10 BTC Yield	0.92	0.71	0.55	0.42	0.32	0.25	0.19	0.15	0.11	0.09	
Cumulative 10 BTC Yield	0.92	1.63	2.18	2.60	2.92	3.17	3.36	3.51	3.62	3.71	
Annual USD Yield %	12.00%	12.00%	12.00%	12.00%	12.00%	12.00%	12.00%	12.00%	12.00%	12.00%	
Annual \$1M USD Yield	\$0.12 M	\$0.12 M	\$0.12 M	\$0.12 M	\$0.12 M	\$0.12 M	\$0.12 M	\$0.12 M	\$0.12 M	\$0.12 M	
Cumulative \$1M USD Yield	\$0.12 M	\$0.24 M	\$0.36 M	\$0.48 M	\$0.60 M	\$0.72 M	\$0.84 M	\$0.96 M	\$1.08 M	\$1.20 M	
Annual Compounded USD Yield %	12.00%	15.60%	32.28%	41.96%	66.55%	86.52%	124.47%	161.82%	222.36%	289.07%	
Average Annual Compounded USD Yield %						33.68%					105.26%
Annual Compounded \$1M USD Yield	\$0.12 M	\$0.28 M	\$0.48 M	\$0.74 M	\$1.09 M	\$1.53 M	\$2.11 M	\$2.86 M	\$3.84 M	\$5.11 M	
Bitcoin Investor / Stable Provider											
Annual BTC Yield %	9.23%	7.10%	5.46%	4.20%	3.23%	2.49%	1.91%	1.47%	1.13%	0.87%	
Average Annual BTC Yield %						5.85%					3.71%
Annual 10 BTC Yield	0.92	0.71	0.55	0.42	0.32	0.25	0.19	0.15	0.11	0.09	
Cumulative 10 BTC Yield	0.92	1.63	2.18	2.60	2.92	3.17	3.36	3.51	3.62	3.71	
Lightning Bank / Stable Balancer											
Annual BTC Yield %	4.62%	3.55%	2.73%	2.10%	1.62%	1.24%	0.96%	0.74%	0.57%	0.44%	
Average Annual BTC Yield %						2.92%					1.85%
Annual 10 BTC Yield	0.46	0.36	0.27	0.21	0.16	0.12	0.10	0.07	0.06	0.04	
Cumulative 10 BTC Yield	0.46	0.82	1.09	1.30	1.46	1.59	1.68	1.75	1.81	1.85	
Annual 20K BTC TVL Yield	462	355	273	210	162	124	96	74	57	44	
Cumulative 20K BTC TVL Yield	462	817	1,090	1,300	1,461	1,586	1,681	1,755	1,811	1,855	
Annual 400K BTC TVL Yield	9,231	7,101	5,462	4,202	3,232	2,486	1,912	1,471	1,132	870	
Cumulative 400K BTC TVL Yield	9,231	16,331	21,793	25,995	29,227	31,713	33,625	35,096	36,228	37,098	
Annual 1M BTC TVL Yield	23,077	17,751	13,655	10,504	8,080	6,215	4,781	3,678	2,829	2,176	
Cumulative 1M BTC TVL Yield	23,077	40,828	54,483	64,987	73,067	79,282	84,063	87,741	90,570	92,746	



Yield Estimate Variables	
Bitcoin USD Price Start	\$0.10 M
Bitcoin Compound Annual Growth Rate	40%
Stable Receiver Yield Allocation	35.00%
Stable Provider Yield Allocation	45.00%
Stable Balancer Yield Allocation	20.00%
Total Yield Allocation	100.00%

# Bitcoin Lightning Bank - The Decentralized Strategy

## Pairing Bitcoin Investors with Fiat Investors for Yield Extraction

Bitcoin Compound Annual Growth Rate Calculator						CAGR	76.93%
Start Price	\$314.25	Start Date	2015-01-01	End Price	\$94,443.52	End Date	2025-01-01

Yield Estimate Calculator	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Stable Receiver Balance	USD is fixed regardless on market dynamics. Bitcoin is variable depending on market dynamics.									
Stable Provider Balance	USD and Bitcoin is variable depending on market dynamics.									
Bitcoin USD Price	\$0.14 M	\$0.20 M	\$0.27 M	\$0.38 M	\$0.54 M	\$0.75 M	\$1.05 M	\$1.48 M	\$2.07 M	\$2.89 M
Bitcoin USD Marketcap	\$2.94 T	\$4.12 T	\$5.76 T	\$8.07 T	\$11.29 T	\$15.81 T	\$22.14 T	\$30.99 T	\$43.39 T	\$60.74 T
Cumulative BTC Yield %	28.57%	48.98%	63.56%	73.97%	81.41%	86.72%	90.51%	93.22%	95.16%	96.54%
Remaining BTC Yield %	71.43%	51.02%	36.44%	26.03%	18.59%	13.28%	9.49%	6.78%	4.84%	3.46%
Annual BTC Yield %	28.57%	20.41%	14.58%	10.41%	7.44%	5.31%	3.79%	2.71%	1.94%	1.38%
Average Annual BTC Yield %					16.28%					9.65%

Fiat Investor / Stable Receiver										
Annual BTC Yield %	10.00%	7.14%	5.10%	3.64%	2.60%	1.86%	1.33%	0.95%	0.68%	0.48%
Average Annual BTC Yield %					5.70%					3.38%
Annual 10 BTC Yield	1.00	0.71	0.51	0.36	0.26	0.19	0.13	0.09	0.07	0.05
Cumulative 10 BTC Yield	1.00	1.71	2.22	2.59	2.85	3.04	3.17	3.26	3.33	3.38
Annual USD Yield %	14.00%	14.00%	14.00%	14.00%	14.00%	14.00%	14.00%	14.00%	14.00%	14.00%
Annual \$1M USD Yield	\$0.14 M	\$0.14 M	\$0.14 M	\$0.14 M	\$0.14 M	\$0.14 M	\$0.14 M	\$0.14 M	\$0.14 M	\$0.14 M
Cumulative \$1M USD Yield	\$0.14 M	\$0.28 M	\$0.42 M	\$0.56 M	\$0.70 M	\$0.84 M	\$0.98 M	\$1.12 M	\$1.26 M	\$1.40 M
Annual Compounded USD Yield %	14.00%	19.60%	41.44%	58.02%	95.22%	133.31%	200.64%	280.89%	407.25%	570.14%
Average Annual Compounded USD Yield %					45.66%					182.05%
Annual Compounded \$1M USD Yield	\$0.14 M	\$0.34 M	\$0.61 M	\$0.99 M	\$1.53 M	\$2.29 M	\$3.34 M	\$4.82 M	\$6.88 M	\$9.77 M

Bitcoin Investor / Stable Provider										
Annual BTC Yield %	12.86%	9.18%	6.56%	4.69%	3.35%	2.39%	1.71%	1.22%	0.87%	0.62%
Average Annual BTC Yield %					7.33%					4.34%
Annual 10 BTC Yield	1.29	0.92	0.66	0.47	0.33	0.24	0.17	0.12	0.09	0.06
Cumulative 10 BTC Yield	1.29	2.20	2.86	3.33	3.66	3.90	4.07	4.20	4.28	4.34

Lightning Bank / Stable Balancer										
Annual BTC Yield %	5.71%	4.08%	2.92%	2.08%	1.49%	1.06%	0.76%	0.54%	0.39%	0.28%
Average Annual BTC Yield %					3.26%					1.93%
Annual 10 BTC Yield	0.57	0.41	0.29	0.21	0.15	0.11	0.08	0.05	0.04	0.03
Cumulative 10 BTC Yield	0.57	0.98	1.27	1.48	1.63	1.73	1.81	1.86	1.90	1.93
Annual 20K BTC TVL Yield	571	408	292	208	149	106	76	54	39	28
Cumulative 20K BTC TVL Yield	571	980	1,271	1,479	1,628	1,734	1,810	1,864	1,903	1,931
Annual 400K BTC TVL Yield	11,429	8,163	5,831	4,165	2,975	2,125	1,518	1,084	774	553
Cumulative 400K BTC TVL Yield	11,429	19,592	25,423	29,588	32,563	34,688	36,205	37,290	38,064	38,617
Annual 1M BTC TVL Yield	28,571	20,408	14,577	10,412	7,437	5,312	3,795	2,710	1,936	1,383
Cumulative 1M BTC TVL Yield	28,571	48,980	63,557	73,969	81,407	86,719	90,514	93,224	95,160	96,543



Yield Estimate Variables	
Bitcoin USD Price Start	\$0.10 M
Bitcoin Compound Annual Growth Rate	20%
Stable Receiver Yield Allocation	50.00%
Stable Provider Yield Allocation	30.00%
Stable Balancer Yield Allocation	20.00%
Total Yield Allocation	100.00%

Bitcoin Lightning Bank - The Decentralized Strategy							
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Bitcoin Compound Annual Growth Rate Calculator						CAGR	76.93%
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Stable Receiver Balance	USD is fixed regardless on market dynamics. Bitcoin is variable depending on market dynamics.									
Stable Provider Balance	USD and Bitcoin is variable depending on market dynamics.									
Bitcoin USD Price	\$0.12 M	\$0.14 M	\$0.17 M	\$0.21 M	\$0.25 M	\$0.30 M	\$0.36 M	\$0.43 M	\$0.52 M	\$0.62 M
Bitcoin USD Marketcap	\$2.52 T	\$3.02 T	\$3.63 T	\$4.35 T	\$5.23 T	\$6.27 T	\$7.52 T	\$9.03 T	\$10.84 T	\$13.00 T
Cumulative BTC Yield %	16.67%	30.56%	42.13%	51.77%	59.81%	66.51%	72.09%	76.74%	80.62%	83.85%
Remaining BTC Yield %	83.33%	69.44%	57.87%	48.23%	40.19%	33.49%	27.91%	23.26%	19.38%	16.15%
Annual BTC Yield %	16.67%	13.89%	11.57%	9.65%	8.04%	6.70%	5.58%	4.65%	3.88%	3.23%
Average Annual BTC Yield %	11.96%									8.38%
Fiat Investor / Stable Receiver										
Annual BTC Yield %	8.33%	6.94%	5.79%	4.82%	4.02%	3.35%	2.79%	2.33%	1.94%	1.62%
Average Annual BTC Yield %	5.98%									4.19%
Annual 10 BTC Yield	0.83	0.69	0.58	0.48	0.40	0.33	0.28	0.23	0.19	0.16
Cumulative 10 BTC Yield	0.83	1.53	2.11	2.59	2.99	3.33	3.60	3.84	4.03	4.19
Annual USD Yield %	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%
Annual \$1M USD Yield	\$0.10 M	\$0.10 M	\$0.10 M	\$0.10 M	\$0.10 M	\$0.10 M	\$0.10 M	\$0.10 M	\$0.10 M	\$0.10 M
Cumulative \$1M USD Yield	\$0.10 M	\$0.20 M	\$0.30 M	\$0.40 M	\$0.50 M	\$0.60 M	\$0.70 M	\$0.80 M	\$0.90 M	\$1.00 M
Annual Compounded USD Yield %	10.00%	12.00%	24.40%	29.28%	45.14%	54.16%	75.00%	90.00%	117.99%	141.59%
Average Annual Compounded USD Yield %	24.16%									59.96%
Annual Compounded \$1M USD Yield	\$0.10 M	\$0.22 M	\$0.36 M	\$0.54 M	\$0.74 M	\$0.99 M	\$1.29 M	\$1.65 M	\$2.08 M	\$2.60 M
Bitcoin Investor / Stable Provider										
Annual BTC Yield %	5.00%	4.17%	3.47%	2.89%	2.41%	2.01%	1.67%	1.40%	1.16%	0.97%
Average Annual BTC Yield %	3.59%									2.52%
Annual 10 BTC Yield	0.50	0.42	0.35	0.29	0.24	0.20	0.17	0.14	0.12	0.10
Cumulative 10 BTC Yield	0.50	0.92	1.26	1.55	1.79	2.00	2.16	2.30	2.42	2.52
Lightning Bank / Stable Balancer										
Annual BTC Yield %	3.33%	2.78%	2.31%	1.93%	1.61%	1.34%	1.12%	0.93%	0.78%	0.65%
Average Annual BTC Yield %	2.39%									1.68%
Annual 10 BTC Yield	0.33	0.28	0.23	0.19	0.16	0.13	0.11	0.09	0.08	0.06
Cumulative 10 BTC Yield	0.33	0.61	0.84	1.04	1.20	1.33	1.44	1.53	1.61	1.68
Annual 20K BTC TVL Yield	333	278	231	193	161	134	112	93	78	65
Cumulative 20K BTC TVL Yield	333	611	843	1,035	1,196	1,330	1,442	1,535	1,612	1,677
Annual 400K BTC TVL Yield	6,667	5,556	4,630	3,858	3,215	2,679	2,233	1,861	1,550	1,292
Cumulative 400K BTC TVL Yield	6,667	12,222	16,852	20,710	23,925	26,604	28,837	30,697	32,248	33,540
Annual 1M BTC TVL Yield	16,667	13,889	11,574	9,645	8,038	6,698	5,582	4,651	3,876	3,230
Cumulative 1M BTC TVL Yield	16,667	30,556	42,130	51,775	59,812	66,510	72,092	76,743	80,619	83,849