UNITED STATES SECURITIES AND EXCHANGE COMMISSION Washington, D.C. 20549

FORM 11-K

FOR ANNUAL REPORTS OF EMPLOYEE STOCK PURCHASE, SAVINGS AND SIMILAR PLANS PURSANT TO SECTION 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

(Mark One)

ANNUAL REPORT PURSUANT TO SECTION 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended December 31, 2021

OR

☐ TRANSITION REPORT PURSUANT TO SECTION 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

Commission File Number: 001-37886

For the transition period from _____ to ___

A. Full title of the plan and the address of the plan, if different from that of the issuer named below:

CAPSTAR BANK 401(k) PROFIT SHARING PLAN

B. Name of the issuer of the securities held pursuant to the plan and the address of its principal executive office:

CAPSTAR FINANCIAL HOLDINGS, INC. 1201 Demonbreun Street, Suite 700 Nashville, Tennessee 37203

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Report of Independent Registered Public Accounting Firm

To the Trustees, Plan Administrator, and Plan Participants of Capstar Bank 401(k) Profit Sharing Plan

Opinion on the Financial Statements

We have audited the accompanying statements of net assets available for benefits of Capstar Bank 401(k) Profit Sharing Plan (the Plan) as of December 31, 2021 and 2020, the related statement of changes in net assets available for benefits for the year ended December 31, 2021, and the related notes to the financial statements (collectively, the financial statements). In our opinion, the financial statements present fairly, in all material respects, the net assets available for benefits of the Plan as of December 31, 2021 and 2020, and the changes in net assets available for benefits for the year ended December 31, 2021, in conformity with accounting principles generally accepted in the United States of America.

Basis for Opinion

These financial statements are the responsibility of the Plan's management. Our responsibility is to express an opinion on these financial statements based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Plan in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

Report on Supplemental Information

The supplemental information in the accompanying Schedule H, Line 4i, Schedule of Assets (Held at End of Year) as of December 31, 2021, has been subjected to audit procedures performed in conjunction with the audit of the Plan's financial statements. The supplemental information is presented for the purpose of additional analysis and is not a required part of the financial statements but includes supplemental information required by the Department of Labor's Rules and Regulations for Reporting and Disclosure under the Employee Retirement Income Security Act of 1974. The supplemental information is the responsibility of the Plan's management. Our audit procedures included determining whether the supplemental information reconciles to the financial statements or the underlying accounting and other records, as applicable, and performing procedures to test the completeness and accuracy of the information presented in the supplemental information. In forming our opinion on the supplemental information in the accompanying schedule, we evaluated whether the supplemental information, including its form and content, is presented in conformity with the Department of Labor's Rules and Regulations for Reporting and Disclosure under the Employee Retirement Income Security Act of 1974. In our opinion, the supplemental information in the accompanying schedule is fairly stated in all material respects in relation to the basic financial statements as a whole.

/s/ Elliott Davis, LLC

We have served as the Plan's auditor since 2020.

Greenville, South Carolina June 27, 2022

CAPSTAR BANK 401(k) PROFIT SHARING PLAN STATEMENTS OF NET ASSETS AVAILABLE FOR BENEFITS DECEMBER 31, 2021 AND 2020

	2021		2021		 2020
Assets					
Investments, at fair value	\$	19,976,028	\$ 19,578,873		
Receivables:					
Participant contributions		61,026	_		
Employer contributions		35,230	_		
Notes receivable from participants		66,624	73,548		
Net assets available for benefits	\$	20,138,908	\$ 19,652,421		

See Notes to Financial Statements

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CAPSTAR BANK 401(k) PROFIT SHARING PLAN STATEMENT OF CHANGES IN NET ASSETS AVAILABLE FOR BENEFITS YEAR ENDED DECEMBER 31, 2021

Investment gain:		
Net appreciation in fair value of investments	\$	2,621,184
Interest and dividends		357,879
Net investment gain		2,979,063
ū		
Interest income on notes receivable from participants		3,472
Contributions:		
Participant		1,766,574
Employer		973,546
Rollover		22,605
		2,762,725
Total additions		5,745,260
Deductions:		
Benefits paid to participants		5,243,519
Administrative expenses		15,254
Total deductions		5,258,773
Increase in net assets available for benefits		486,487
Net assets available for benefits, beginning of year		19,652,421
Net assets available for benefits, end of year	\$	20,138,908
	•	
See Notes to Financial Statements	5	

Note 1: Description of the Plan

The following description of the CapStar Bank 401(k) Profit Sharing Plan (Plan) provides only general information. Participants should refer to the Plan Document for a more complete description of the Plan's provisions.

General

The Plan is a defined contribution plan sponsored by CapStar Bank (Company) for the benefit of its full-time employees and part-time employees whose regularly scheduled hours during each computation period exceed 1,000 hours. The Plan is subject to the provisions of the *Employee Retirement Income Security Act of 1974* (ERISA). Newport Trust Company is the trustee of the Plan and serves as Plan Custodian.

Effective April 30, 2018, the Plan allows participants to direct a portion of their investments into a fund that is invested in the common stock of CapStar Financial Holdings, Inc. (CapStar). The Plan sponsor has placed a limit on participant investments into this fund whereby no more than 10% of a participant's account balance may be invested in this fund. Investments in the Plan, including CapStar common stock, have been registered with the Securities and Exchange Commission (SEC).

Contributions

The Plan permits eligible employees through a salary deferral election to have the Company make annual contributions in amounts up to the maximum amount allowed by law. Employee Roth, rollover and catch-up contributions are also permitted. The Company makes safe-harbor nonelective contributions to each eligible participant in an amount equal to 3% of the employee's eligible compensation. The Company may elect to make additional matching contributions or profit-sharing contributions equal to a discretionary percentage. No discretionary matching contributions or profit-sharing contributions were made to the Plan for the year ended December 31, 2021. Contributions are subject to certain limitations.

Participant Investment Account Options

Each participant has the option of directing his or her contributions into any of the various investment options offered by the Plan and may change the allocation daily.

Participant Accounts

Each participant's account is credited with the participant's contribution, the Company's contribution and Plan earnings and is charged with an allocation of administrative expenses. Allocations are based on participant earnings or account balances, as defined. The benefit to which a participant is entitled is the benefit that can be provided from the participant's vested account.

Vesting

Participants are immediately vested in their voluntary contributions and employer safe harbor nonelective contributions, plus earnings thereon. Vesting in the Company's discretionary matching and profit-sharing contribution portions of their accounts, plus earnings thereon, is based on employees' service. A participant is fully vested in employer discretionary matching and profit-sharing contributions, if applicable, after four years of service. Forfeitures, if applicable, are used to pay administrative expenses or to reduce any employer contribution.

Notes Receivable from Participants

Participants may borrow from their fund accounts a minimum of \$1,000, up to a maximum equal to the lesser of \$50,000 or 50% of their account balance. The loans are secured by the balance in the participant's account. The loan interest rate, determined quarterly, is set at 1% above the prime rate, as defined. Principal and interest are paid ratably through payroll deductions.

Payment of Benefits

Upon termination of service, a participant may elect to receive a lump-sum amount equal to the value of his or her account.

Forfeited Accounts

At December 31, 2021 and 2020, forfeited accounts totaled approximately \$1,400 and \$100, respectively. Forfeitures may be used to reduce the Bank's future contributions to the Plan as well as payment of administrative expenses. For the year ended December 31, 2021 and 2020, contributions were reduced from forfeited accounts by approximately \$3,500 and \$65,100, respectively. Forfeited amounts for 2020 include \$64,800 of excess contributions by the Company prior to 2020, which were identified and withdrawn from the plan in 2020, thereby reducing the Company's 2020 contributions.

Note 2: Summary of Significant Accounting Policies

Basis of Accounting

The accompanying financial statements of the Plan are prepared on the accrual basis of accounting.

Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of net assets and changes in net assets and disclosure of contingent assets and liabilities at the date of the financial statements. Actual results could differ from those estimates.

Investment Valuation and Income Recognition

Investments are reported at fair value. Quoted market prices, if available, are used to value investments. Mutual funds are valued at quoted market prices of shares held by the Plan at year-end. Common stock within the unitized stock fund is valued at the closing price reported on the active market on which the individual securities are traded. Money market funds, including those within the unitized stock fund, are valued at amortized cost, which approximates fair value. The Plan's interest in the collective trust is valued at the net asset value (NAV) of units of the collective trust. The NAV is used as a practical expedient to estimate fair value of the collective trust investment.

Purchases and sales of securities are recorded on a trade-date basis. Interest income is recorded on the accrual basis. Dividends are recorded on the ex-dividend date. Net appreciation (depreciation) includes the Plan's gains and losses on investments bought and sold, as well as held during the year.

Notes Receivable from Participants

Notes receivable from participants are measured at their unpaid principal balance plus any accrued but unpaid interest. Loan repayment periods may not exceed 5 years except for loans used to acquire a principal residence, in which case the repayment period may not exceed 15 years. Delinquent participant loans are reclassified as distributions based upon the terms of the Plan Document.

Payment of Benefits

Benefit payments to participants are recorded upon distribution.

Administrative Expenses

Administrative expenses may be paid by the Company or the Plan, at the Company's discretion.

Note 3: Related-Party and Party-in-Interest Transactions

Party-in-interest transactions include those with fiduciaries or employees of the Plan, any person who provides services to the Plan, an employer whose employees are covered by the Plan, an employee organization whose members are covered by the Plan, a person who owns 50% or more of such an employer or employee association or relatives of such persons.

The Plan paid \$15,254 of fees to the Plan recordkeeper during the year ended December 31, 2021 compared to \$7,053 for the year ended December 31, 2020. The Company provides certain administrative services at no cost to the Plan.

The Plan held the following party-in-interest investments (at fair value) within the unitized stock fund at December 31:

	 2021	 2020
CapStar Financial Holdings Inc. (CSTR) common stock	\$ 790,539	\$ 758,460
Shares outstanding	37,591	51,421

Note 4: Disclosures About Fair Value of Plan Assets and Liabilities

Fair value is the price that would be received by the Plan for an asset or paid by the Plan to transfer a liability (an exit price) in an orderly transaction between market participants on the measurement date in the Plan's principal or most advantageous market for the asset or liability. Fair value measurements must maximize the use of observable inputs and minimize the use of unobservable inputs. There is a hierarchy of three levels of inputs that may be used to measure fair value:

- **Level 1** Quoted prices in active markets for identical assets or liabilities
- **Level 2** Observable inputs other than Level 1 prices, such as quoted prices for similar assets or liabilities; quoted prices in markets that are not active; or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the assets or liabilities
- **Level 3** Unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the assets or liabilities

Recurring Measurements

The following table presents the fair value measurements of assets recognized in the accompanying statements of net assets available for benefits measured at fair value on a recurring basis and the level within the fair value hierarchy in which the fair value measurements fall at December 31, 2021 and 2020:

	Fair value measurements using				
	Quoted prices in active markets for identical assets (Level 1)	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)	Total	
December 31, 2021					
Mutual funds	\$ 18,364,238	\$ —	\$ —	\$ 18,364,238	
Unitized stock fund	813,046			813,046	
Total assets in fair value hierarchy	\$ 19,177,284	<u>\$</u>	<u>\$</u>	\$ 19,177,284	
Investments measured at net asset value (A):					
Collective trust fund				798,744	
				\$ 19,976,028	
December 31, 2020					
Money market funds	\$ 963,694	\$ —	\$ —	\$ 963,694	
Mutual funds	16,667,307			16,667,307	
Unitized stock fund	778,374			778,374	
Total assets in fair value hierarchy	<u>\$ 18,409,375</u>	<u>\$</u>	\$	\$ 18,409,375	
Investments measured at net asset value (A):					
Collective trust fund				1,169,498	
				\$ 19,578,873	

(A) In accordance with Subtopic 820-10, an investment measured at the NAV per share (or its equivalent) has not been classified in the fair value hierarchy. The fair value amount presented in this table is intended to permit a reconciliation of the fair value hierarchy to the line items presented in the statements of net assets available for benefits.

Following is a description of the valuation methodologies and inputs used for assets measured at fair value on a recurring basis and recognized in the accompanying statements of net assets available for benefits, as well as the general classification of such assets pursuant to the valuation hierarchy. There have been no significant changes in the valuation techniques during the year ended December 31, 2021. The Plan had no liabilities measured at fair value on a recurring basis. In addition, the Plan had no assets or liabilities measured at fair value on a nonrecurring basis.

Investments

Where quoted market prices are available in an active market, mutual fund investments are classified within Level 1 of the valuation hierarchy. If quoted market prices are not available, then fair values are estimated by using quoted prices of securities with similar characteristics or independent asset pricing services and pricing models, the inputs of which are market-based or independently sourced market parameters, including, but not limited to, yield curves, interest rates, volatilities, prepayments, defaults, cumulative loss projections and cash flows. Such investments are classified in Level 2 of the valuation hierarchy. In certain cases where Level 1 or Level 2 inputs are not available, securities are classified within Level 3 of the hierarchy.

The unitized stock fund consists of CapStar Financial Holdings, Inc. (CSTR) common stock and money market funds that provide liquidity for daily trading. CSTR common stock is valued at the closing price reported on the active market on which the individual securities are traded and the money market funds are valued at amortized cost, which approximates fair value.

Investment Measured Using the Net Asset Value per Share Practical Expedient

The following tables summarize the investment for which fair value is measured using the NAV per share practical expedient as of December 31, 2021 and 2020. There are no participant redemption restrictions for these investments; the redemption notice period is applicable only to the Plan.

		Unfunded	Redemption	Redemption
	Fair value	commitments	frequency	notice period
December 31, 2021	 			
Morley Stable Value Fund	\$ 798,744	N/A	Daily	None
December 31, 2020				
Morley Stable Value Fund	\$ 1,169,498	N/A	Daily	None

Note 5: Risks and Uncertainties

The Plan invests in various investment securities. Investment securities are exposed to various risks, such as interest rate, market and credit risks. Due to the level of risk associated with certain investment securities, it is at least reasonably possible that changes in the values of investment securities will occur in the near term and that such changes could materially affect the participants' account balances and the amounts reported in the statements of net assets available for benefits.

Note 6: Plan Termination

Although it has not expressed any intent to do so, the Company has the right under the Plan to discontinue its contributions at any time and to terminate the Plan subject to the provisions of ERISA. In the event of Plan termination, participants would become 100% vested in their employer contributions.

Note 7: Tax Status

The Plan operates under a volume submitter adoption agreement and plan document sponsored by Newport Group, Inc. The volume submitter document has been filed with the appropriate agency. The Plan has not obtained or requested a determination letter. However, the Plan administrator believes the Plan and related trust are currently designed and are being operated in compliance with the applicable requirements of the Internal Revenue Code and the Plan was qualified and the related trust was exempt as of the financial statement date. Accounting principles generally accepted in the United States of America require Plan management to evaluate tax positions taken by the Plan and recognize a tax liability if the Plan has taken an uncertain position that more likely than not would not be sustained upon examination. The Plan is subject to routine audits by taxing jurisdictions; however, there are currently no audits for any tax periods in progress.

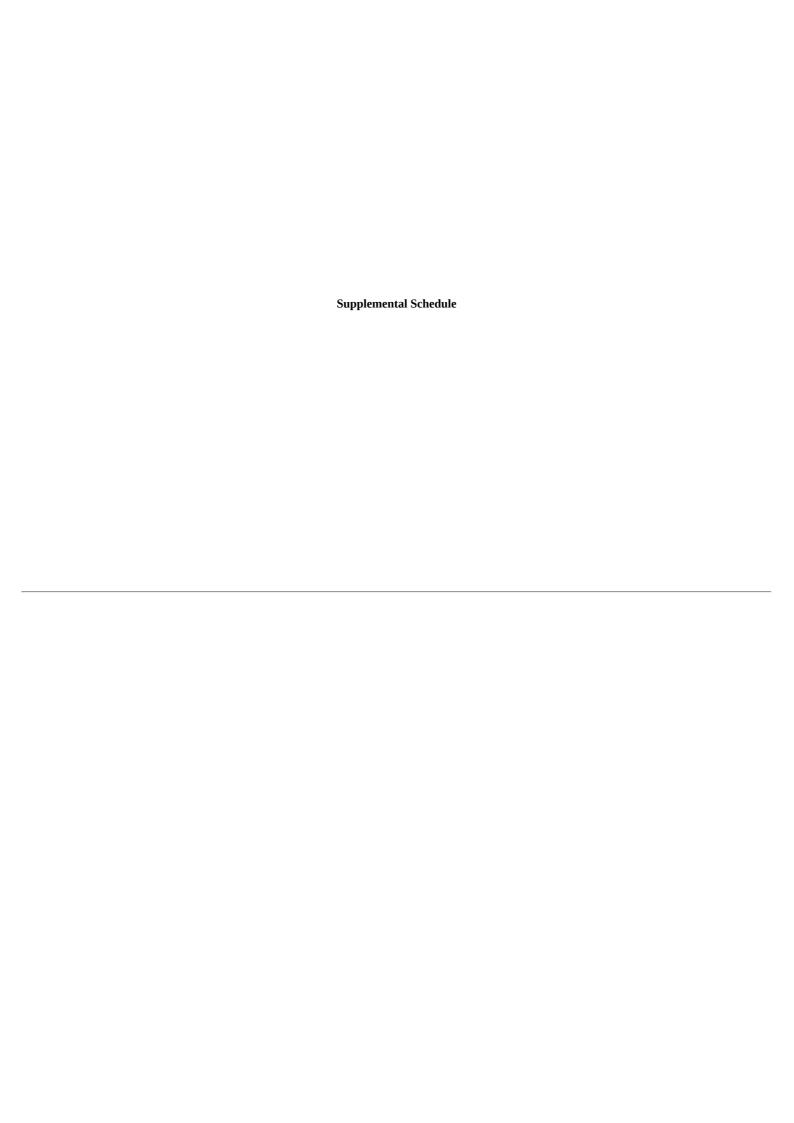
Note 8: Plan Amendment

Effective November 24, 2021, the Plan was amended whereas deferral elections can be entered into as of each participant's Plan entry date or the first day of the month. Furthermore, any deferral election modifications can be entered into on the first day of each month. Initial deferral elections and subsequent modifications will become effective as soon as administratively feasible under the Plan's administrator. Effective July 1, 2020 the Plan was amended to recognize predecessor service for employees hired in conjunction with an acquisition during the year ended December 31, 2020, and to allow for the rollover of loans for certain participants. All other significant provisions of the Plan remained unchanged as a result of these 2021 and 2020 amendments.

Note 9: Subsequent Events

The plan has evaluated all events or transactions that occurred through June 27, 2022, the date the financial statements were issued and determined that there are no matters requiring adjustment to or disclosure in the accompanying financial statements and related notes.

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CAPSTAR BANK 401(k) PROFIT SHARING PLAN EIN 26-0189349 PN 001

SCHEDULE H, LINE 4i – SCHEDULE OF ASSETS (HELD AT END OF YEAR) DECEMBER 31, 2021

Identity of issuer	Description of investment	Current value
Investments:		
Allspring Special Mid Cap Value	Mutual Fund	\$ 174
American Century Small Cap Value Fund	Mutual Fund	14,334
American Funds Europacific Growth	Mutual Fund	376,737
American Funds New Perspective	Mutual Fund	55,663
Calamos Market Neutral Income	Mutual Fund	38,666
Delaware Ivy Mid Cap Growth	Mutual Fund	14,378
Fidelity 500 Index	Mutual Fund	2,584,368
Fidelity Blue Chip Growth	Mutual Fund	1,075,689
Fidelity Freedom Index 2015	Mutual Fund	138,435
Fidelity Freedom Index 2020	Mutual Fund	550,300
Fidelity Freedom Index 2025	Mutual Fund	1,363,634
Fidelity Freedom Index 2030	Mutual Fund	3,388,384
Fidelity Freedom Index 2035	Mutual Fund	1,140,235
Fidelity Freedom Index 2040	Mutual Fund	699,778
Fidelity Freedom Index 2045	Mutual Fund	231,789
Fidelity Freedom Index 2050	Mutual Fund	2,404,544
Fidelity Freedom Index 2055	Mutual Fund	176,969
Fidelity Freedom Index 2060	Mutual Fund	31,539
Fidelity Freedom Index 2065	Mutual Fund	15,718
Fidelity Freedom Index Inc.	Mutual Fund	669,983
Fidelity U.S. Bond Index	Mutual Fund	3,619
Metropolitan West Total Return Bond	Mutual Fund	361,341
PGIM High Yield	Mutual Fund	87,065
Vanguard Developed Markets Index	Mutual Fund	209,558
Vanguard Emerging Markets Index	Mutual Fund	233,104
Vanguard Mid Cap Index	Mutual Fund	760,278
Vanguard Small Cap Index	Mutual Fund	764,766
Vanguard Total International Stock Index	Mutual Fund	106,871
Vanguard Total Stock Market Index	Mutual Fund	440,420
Vanguard Value Index	Mutual Fund	425,899
Morley Stable Value Fund	Common Collective Trust Fund	798,744
*CapStar Bank Unitized Stock Fund	Unitized Stock Fund	813,046
	0	19,976,028
*Participant Loans	Participant plan notes:	
	Lowest interest rate - 4.25%	
	Highest interest rate - 6.50%	
	Through April 2034	66,624
		\$ 20,042,652

 ${\bf *Party\text{-}in\text{-}interest}$

CAPSTAR BANK 401(k) PROFIT SHARING PLAN EXHIBIT INDEX

Exhibit Number	Description	
23.1	Consent of Independent Registered Public Accounting Firm	
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SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the trustees (or other persons who administer the employee benefit plan) have duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

CAPSTAR BANK 401(k) PROFIT SHARING PLAN

By: /s/ Michael J. Fowler

Michael J. Fowler Chief Financial Officer (Principal Financial Officer)

CAPSTAR BANK 401(k) PROFIT SHARING PLAN

By: /s/ Jeffrey L. Moody

Jeffrey L. Moody

Controller (Principal Accounting Officer)

Date: June 27, 2022

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Consent of Independent Registered Public Accounting Firm

We consent to the incorporation by reference in the Registration Statement (No. 333-224559) on Form S-8 of Capstar Financial Holdings, Inc. of our report dated June 27, 2022, relating to our audit of the financial statements and supplemental schedule of Capstar Bank 401(k) Profit Sharing Plan which appears in this Annual Report on Form 11-K of Capstar Bank 401(k) Profit Sharing Plan for the year ended December 31, 2021.

/s/ Elliott Davis, LLC

Greenville, South Carolina June 27, 2022