

United States
Securities and Exchange Commission
Washington, D.C. 20549
Form 10-Q

☒ **Quarterly Report Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934**
For the quarterly period ended: **September 30, 2022**

Or

☐ **Transition Report Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934**
For the transition period from _____ to _____

Commission file number: 001-13221

Cullen/Frost Bankers, Inc.
(Exact name of registrant as specified in its charter)

<u>Texas</u> (State or other jurisdiction of incorporation or organization)	<u>74-1751768</u> (I.R.S. Employer Identification No.)
<u>111 W. Houston Street, San Antonio, Texas</u> (Address of principal executive offices)	<u>78205</u> (Zip code)
<u>(210) 220-4011</u> (Registrant's telephone number, including area code)	
<u>N/A</u> (Former name, former address and former fiscal year, if changed since last report)	

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, \$.01 Par Value	CFR	New York Stock Exchange
Depository Shares, each representing a 1/40th interest in a share of 4.450% Non-Cumulative Perpetual Preferred Stock, Series B	CFR.PrB	New York Stock Exchange

Indicate by check mark whether the registrant: (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☒ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	☒	Accelerated filer	☐
Non-accelerated filer	☐	Smaller reporting company	☐
		Emerging growth company	☐

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ☐ No ☒

As of October 24, 2022 there were 64,298,720 shares of the registrant's Common Stock, \$.01 par value, outstanding.

Cullen/Frost Bankers, Inc.
Quarterly Report on Form 10-Q
September 30, 2022

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Part I. Financial Information
Item 1. Financial Statements (Unaudited)
Cullen/Frost Bankers, Inc.
Consolidated Balance Sheets

(Dollars in thousands, except per share amounts)

	September 30, 2022	December 31, 2021
Assets:		
Cash and due from banks	\$ 665,123	\$ 555,778
Interest-bearing deposits	12,863,775	15,985,244
Federal funds sold	91,650	34,075
Resell agreements	12,150	7,903
Total cash and cash equivalents	13,632,698	16,583,000
Securities held to maturity, net of allowance for credit losses of \$158 at September 30, 2022 and \$158 at December 31, 2021	2,174,084	1,749,179
Securities available for sale, at estimated fair value	17,399,107	13,924,628
Trading account securities	25,008	25,162
Loans, net of unearned discounts	16,950,629	16,336,397
Less: Allowance for credit losses on loans	(234,315)	(248,666)
Net loans	16,716,314	16,087,731
Premises and equipment, net	1,068,749	1,050,331
Goodwill	654,952	654,952
Other intangible assets, net	486	866
Cash surrender value of life insurance policies	190,368	190,139
Accrued interest receivable and other assets	1,083,803	612,502
Total assets	\$ 52,945,569	\$ 50,878,490
Liabilities:		
Deposits:		
Non-interest-bearing demand deposits	\$ 18,565,820	\$ 18,423,018
Interest-bearing deposits	27,994,366	24,272,678
Total deposits	46,560,186	42,695,696
Federal funds purchased	26,200	25,925
Repurchase agreements	2,082,739	2,740,799
Junior subordinated deferrable interest debentures, net of unamortized issuance costs	123,055	123,011
Subordinated notes, net of unamortized issuance costs	99,295	99,178
Accrued interest payable and other liabilities	1,241,622	754,326
Total liabilities	50,133,097	46,438,935
Shareholders' Equity:		
Preferred stock, par value \$0.01 per share; 10,000,000 shares authorized; 150,000 Series B shares (\$1,000 liquidation preference) issued at September 30, 2022 and December 31, 2021	145,452	145,452
Common stock, par value \$0.01 per share; 210,000,000 shares authorized; 64,236,306 shares issued at September 30, 2022 and December 31, 2021	642	642
Additional paid-in capital	1,018,624	1,009,921
Retained earnings	3,179,964	2,956,966
Accumulated other comprehensive income (loss), net of tax	(1,528,925)	347,318
Treasury stock, at cost; 24,917 shares at September 30, 2022 and 250,070 shares at December 31, 2021	(3,285)	(20,744)
Total shareholders' equity	2,812,472	4,439,555
Total liabilities and shareholders' equity	\$ 52,945,569	\$ 50,878,490

See Notes to Consolidated Financial Statements.

Cullen/Frost Bankers, Inc.
Consolidated Statements of Income

(Dollars in thousands, except per share amounts)

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
Interest income:				
Loans, including fees	\$ 205,932	\$ 168,779	\$ 522,588	\$ 518,957
Securities:				
Taxable	68,311	20,736	167,734	61,366
Tax-exempt	59,450	56,882	173,394	169,656
Interest-bearing deposits	74,257	5,830	106,971	11,877
Federal funds sold	316	2	428	13
Resell agreements	64	6	78	11
Total interest income	408,330	252,235	971,193	761,880
Interest expense:				
Deposits	42,682	3,677	62,187	10,693
Federal funds purchased	249	9	336	24
Repurchase agreements	7,529	632	9,837	1,597
Junior subordinated deferrable interest debentures	1,159	631	2,515	1,915
Subordinated notes	1,164	1,164	3,492	3,492
Total interest expense	52,783	6,113	78,367	17,721
Net interest income	355,547	246,122	892,826	744,159
Credit loss expense	—	—	—	63
Net interest income after credit loss expense	355,547	246,122	892,826	744,096
Non-interest income:				
Trust and investment management fees	38,552	37,381	114,984	110,569
Service charges on deposit accounts	22,960	21,216	69,570	61,058
Insurance commissions and fees	13,152	11,748	41,536	39,834
Interchange and card transaction fees	4,614	4,490	13,751	13,224
Other charges, commissions and fees	11,095	9,785	30,609	26,729
Net gain (loss) on securities transactions	—	—	—	—
Other	9,448	8,569	28,688	26,258
Total non-interest income	99,821	93,189	299,138	277,672
Non-interest expense:				
Salaries and wages	127,189	99,463	355,399	289,956
Employee benefits	21,680	21,576	66,633	62,840
Net occupancy	28,133	27,208	83,923	79,909
Technology, furniture and equipment	30,781	28,494	89,859	84,508
Deposit insurance	4,279	3,088	11,636	8,893
Intangible amortization	103	157	380	544
Other	45,733	38,017	135,147	116,749
Total non-interest expense	257,898	218,003	742,977	643,399
Income before income taxes	197,470	121,308	448,987	378,369
Income taxes	27,710	13,333	61,011	36,311
Net income	169,760	107,975	387,976	342,058
Preferred stock dividends	1,668	1,668	5,006	5,488
Net income available to common shareholders	\$ 168,092	\$ 106,307	\$ 382,970	\$ 336,570
Earnings per common share:				
Basic	\$ 2.60	\$ 1.66	\$ 5.92	\$ 5.25
Diluted	2.59	1.65	5.90	5.22

See Notes to Consolidated Financial Statements.

Cullen/Frost Bankers, Inc.
Consolidated Statements of Comprehensive Income (Loss)
(Dollars in thousands)

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
Net income	\$ 169,760	\$ 107,975	\$ 387,976	\$ 342,058
Other comprehensive income (loss), before tax:				
Securities available for sale and transferred securities:				
Change in net unrealized gain/loss during the period	(829,324)	(80,668)	(2,376,642)	(209,779)
Change in net unrealized gain on securities transferred to held to maturity	(174)	(237)	(572)	(741)
Reclassification adjustment for net (gains) losses included in net income	—	—	—	—
Total securities available for sale and transferred securities	(829,498)	(80,905)	(2,377,214)	(210,520)
Defined-benefit post-retirement benefit plans:				
Reclassification adjustment for net amortization of actuarial gain/loss included in net income as a component of net periodic cost (benefit)	741	1,529	2,223	4,587
Total defined-benefit post-retirement benefit plans	741	1,529	2,223	4,587
Other comprehensive income (loss), before tax	(828,757)	(79,376)	(2,374,991)	(205,933)
Deferred tax expense (benefit)	(174,038)	(16,669)	(498,748)	(43,246)
Other comprehensive income (loss), net of tax	(654,719)	(62,707)	(1,876,243)	(162,687)
Comprehensive income (loss)	<u>\$ (484,959)</u>	<u>\$ 45,268</u>	<u>\$ (1,488,267)</u>	<u>\$ 179,371</u>

See Notes to Consolidated Financial Statements.

Cullen/Frost Bankers, Inc.
Consolidated Statements of Changes in Shareholders' Equity

(Dollars in thousands, except per share amounts)

	Preferred Stock	Common Stock	Additional Paid-In Capital	Retained Earnings	Accumulated Other Comprehensive Income (Loss), Net of Tax	Treasury Stock	Total
Three months ended:							
September 30, 2022							
Balance at beginning of period	\$ 145,452	\$ 642	\$ 1,015,451	\$ 3,070,109	\$ (874,206)	\$ (10,473)	\$ 3,346,975
Net income	—	—	—	169,760	—	—	169,760
Other comprehensive income (loss), net of tax	—	—	—	—	(654,719)	—	(654,719)
Stock option exercises/stock unit conversions (88,350 shares)	—	—	—	(1,918)	—	7,188	5,270
Stock-based compensation expense recognized in earnings	—	—	3,173	—	—	—	3,173
Cash dividends – Series B preferred stock (approximately \$11.13 per share which is equivalent to approximately \$0.28 per depositary share)	—	—	—	(1,668)	—	—	(1,668)
Cash dividends – common stock (\$0.87 per share)	—	—	—	(56,319)	—	—	(56,319)
Balance at end of period	<u>\$ 145,452</u>	<u>\$ 642</u>	<u>\$ 1,018,624</u>	<u>\$ 3,179,964</u>	<u>\$ (1,528,925)</u>	<u>\$ (3,285)</u>	<u>\$ 2,812,472</u>
September 30, 2021							
Balance at beginning of period	\$ 145,452	\$ 642	\$ 1,002,939	\$ 2,862,966	\$ 412,990	\$ (51,172)	\$ 4,373,817
Net income	—	—	—	107,975	—	—	107,975
Other comprehensive income (loss), net of tax	—	—	—	—	(62,707)	—	(62,707)
Stock option exercises/stock unit conversions (21,968 shares)	—	—	—	(1,085)	—	2,213	1,128
Stock-based compensation expense recognized in earnings	—	—	1,985	—	—	—	1,985
Purchase of treasury stock (478 shares)	—	—	—	—	—	(54)	(54)
Cash dividends – Series B preferred stock (approximately \$11.13 per share which is equivalent to approximately \$0.28 per depositary share)	—	—	—	(1,668)	—	—	(1,668)
Cash dividends – common stock (\$0.75 per share)	—	—	—	(48,114)	—	—	(48,114)
Balance at end of period	<u>\$ 145,452</u>	<u>\$ 642</u>	<u>\$ 1,004,924</u>	<u>\$ 2,920,074</u>	<u>\$ 350,283</u>	<u>\$ (49,013)</u>	<u>\$ 4,372,362</u>

See accompanying Notes to Consolidated Financial Statements

Cullen/Frost Bankers, Inc.
Consolidated Statements of Changes in Shareholders' Equity

(Dollars in thousands, except per share amounts)

	Preferred Stock	Common Stock	Additional Paid-In Capital	Retained Earnings	Accumulated Other Comprehensive Income (Loss), Net of Tax	Treasury Stock	Total
Nine months ended:							
September 30, 2022							
Balance at beginning of period	\$ 145,452	\$ 642	\$ 1,009,921	\$ 2,956,966	\$ 347,318	\$ (20,744)	\$ 4,439,555
Net income	—	—	—	387,976	—	—	387,976
Other comprehensive income (loss), net of tax	—	—	—	—	(1,876,243)	—	(1,876,243)
Stock option exercises/stock unit conversions (232,612 shares)	—	—	—	(6,695)	—	18,455	11,760
Stock-based compensation expense recognized in earnings	—	—	8,703	—	—	—	8,703
Purchase of treasury stock (7,459 shares)	—	—	—	—	—	(996)	(996)
Cash dividends – Series B preferred stock (approximately \$33.38 per share which is equivalent to approximately \$0.83 per depositary share)	—	—	—	(5,006)	—	—	(5,006)
Cash dividends – common stock (\$2.37 per share)	—	—	—	(153,277)	—	—	(153,277)
Balance at end of period	<u>\$ 145,452</u>	<u>\$ 642</u>	<u>\$ 1,018,624</u>	<u>\$ 3,179,964</u>	<u>\$ (1,528,925)</u>	<u>\$ (3,285)</u>	<u>\$ 2,812,472</u>
September 30, 2021							
Balance at beginning of period	\$ 145,452	\$ 642	\$ 997,168	\$ 2,750,723	\$ 512,970	\$ (113,939)	\$ 4,293,016
Net income	—	—	—	342,058	—	—	342,058
Other comprehensive income (loss), net of tax	—	—	—	—	(162,687)	—	(162,687)
Stock option exercises/stock unit conversions (650,044 shares)	—	—	—	(26,652)	—	64,462	37,810
Stock-based compensation expense recognized in earnings	—	—	7,756	—	—	—	7,756
Purchase of treasury stock (12,103 shares)	—	—	—	—	—	(1,342)	(1,342)
Treasury stock issued to the 401(k) stock purchase plan (18,555 shares)	—	—	—	(57)	—	1,806	1,749
Cash dividends – Series B preferred stock (approximately \$36.59 per share which is equivalent to approximately \$0.91 per depositary share)	—	—	—	(5,488)	—	—	(5,488)
Cash dividends – common stock (\$2.19 per share)	—	—	—	(140,510)	—	—	(140,510)
Balance at end of period	<u>\$ 145,452</u>	<u>\$ 642</u>	<u>\$ 1,004,924</u>	<u>\$ 2,920,074</u>	<u>\$ 350,283</u>	<u>\$ (49,013)</u>	<u>\$ 4,372,362</u>

See accompanying Notes to Consolidated Financial Statements

Cullen/Frost Bankers, Inc.
Consolidated Statements of Cash Flows
(Dollars in thousands)

	Nine Months Ended September 30,	
	2022	2021
Operating Activities:		
Net income	\$ 387,976	\$ 342,058
Adjustments to reconcile net income to net cash from operating activities:		
Credit loss expense	—	63
Deferred tax expense (benefit)	(3,378)	4,672
Accretion of loan discounts	(10,572)	(9,879)
Securities premium amortization (discount accretion), net	76,328	90,017
Net (gain) loss on securities transactions	—	—
Depreciation and amortization	53,303	51,550
Net (gain) loss on sale/write-down of assets/foreclosed assets	109	(1,885)
Stock-based compensation	8,703	7,756
Net tax benefit from stock-based compensation	2,894	4,505
Earnings on life insurance policies	(1,561)	(1,901)
Net change in:		
Trading account securities	154	(421)
Lease right-of-use assets	18,151	17,566
Accrued interest receivable and other assets	(63,382)	(65,849)
Accrued interest payable and other liabilities	71,187	114,361
Net cash from operating activities	539,912	552,613
Investing Activities:		
Securities held to maturity:		
Purchases	(878,434)	—
Maturities, calls and principal repayments	557,901	171,969
Securities available for sale:		
Purchases	(6,702,519)	(4,105,085)
Sales	—	—
Maturities, calls and principal repayments	1,140,939	3,125,786
Proceeds from sale of loans	2,365	—
Net change in loans	(617,981)	1,649,429
Benefits received on life insurance policies	1,332	1,944
Proceeds from sales of premises and equipment	47	7,033
Purchases of premises and equipment	(55,635)	(37,088)
Proceeds from sales of repossessed properties	2,585	809
Net cash from investing activities	(6,549,400)	814,797
Financing Activities:		
Net change in deposits	3,864,490	4,597,006
Net change in short-term borrowings	(657,785)	110,232
Proceeds from stock option exercises	11,760	37,810
Purchase of treasury stock	(996)	(1,342)
Cash dividends paid on preferred stock	(5,006)	(5,488)
Cash dividends paid on common stock	(153,277)	(140,510)
Net cash from financing activities	3,059,186	4,597,708
Net change in cash and cash equivalents	(2,950,302)	5,965,118
Cash and cash equivalents at beginning of period	16,583,000	10,288,853
Cash and cash equivalents at end of period	\$ 13,632,698	\$ 16,253,971

See Notes to Consolidated Financial Statements.

Notes to Consolidated Financial Statements

(Table amounts in thousands, except for share and per share amounts)

Note 1 - Significant Accounting Policies

Nature of Operations. Cullen/Frost Bankers, Inc. (“Cullen/Frost”) is a financial holding company and a bank holding company headquartered in San Antonio, Texas that provides, through its subsidiaries, a broad array of products and services throughout numerous Texas markets. The terms “Cullen/Frost,” “the Corporation,” “we,” “us” and “our” mean Cullen/Frost Bankers, Inc. and its subsidiaries, when appropriate. In addition to general commercial and consumer banking, other products and services offered include trust and investment management, insurance, brokerage, mutual funds, leasing, treasury management, capital markets advisory and item processing.

Basis of Presentation. The consolidated financial statements in this Quarterly Report on Form 10-Q include the accounts of Cullen/Frost and all other entities in which Cullen/Frost has a controlling financial interest. All significant intercompany balances and transactions have been eliminated in consolidation. The accounting and financial reporting policies we follow conform, in all material respects, to accounting principles generally accepted in the United States and to general practices within the financial services industry.

The consolidated financial statements in this Quarterly Report on Form 10-Q have not been audited by an independent registered public accounting firm, but in the opinion of management, reflect all adjustments necessary for a fair presentation of our financial position and results of operations. All such adjustments were of a normal and recurring nature. The consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the United States for interim financial information and with the instructions to Form 10-Q adopted by the Securities and Exchange Commission (“SEC”). Accordingly, the financial statements do not include all of the information and footnotes required by accounting principles generally accepted in the United States for complete financial statements and should be read in conjunction with our consolidated financial statements, and notes thereto, for the year ended December 31, 2021, included in our Annual Report on Form 10-K filed with the SEC on February 4, 2022 (the “2021 Form 10-K”). Operating results for the interim periods disclosed herein are not necessarily indicative of the results that may be expected for a full year or any future period.

Use of Estimates. The preparation of financial statements in conformity with accounting principles generally accepted in the United States requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements. Actual results could differ from those estimates. The allowance for loan losses and the fair values of financial instruments and the status of contingencies are particularly subject to change.

Cash Flow Reporting. Additional cash flow information was as follows:

	Nine Months Ended September 30,	
	2022	2021
Cash paid for interest	\$ 71,848	\$ 23,722
Cash paid for income taxes	78,500	28,043
Significant non-cash transactions:		
Unsettled securities transactions	470,813	600,874
Loans foreclosed and transferred to other real estate owned and foreclosed assets	—	3,464
Right-of-use lease assets obtained in exchange for lessee operating lease liabilities	23,959	4,045
Treasury stock issued to 401(k) stock purchase plan	—	1,749

Accounting Changes, Reclassifications and Restatements. Certain items in prior financial statements have been reclassified to conform to the current presentation.

Note 2 - Securities

Securities - Held to Maturity. A summary of the amortized cost, fair value and allowance for credit losses related to securities held to maturity as of September 30, 2022 and December 31, 2021 is presented below.

	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Value	Allowance for Credit Losses	Net Carrying Amount
September 30, 2022						
Residential mortgage-backed securities	\$ 526,397	\$ —	\$ 68,024	\$ 458,373	\$ —	\$ 526,397
States and political subdivisions	1,646,345	90	188,964	1,457,471	(158)	1,646,187
Other	1,500	—	57	1,443	—	1,500
Total	<u>\$ 2,174,242</u>	<u>\$ 90</u>	<u>\$ 257,045</u>	<u>\$ 1,917,287</u>	<u>\$ (158)</u>	<u>\$ 2,174,084</u>
December 31, 2021						
Residential mortgage-backed securities	\$ 527,264	\$ 18,766	\$ —	\$ 546,030	\$ —	\$ 527,264
States and political subdivisions	1,220,573	41,141	101	1,261,613	(158)	1,220,415
Other	1,500	—	—	1,500	—	1,500
Total	<u>\$ 1,749,337</u>	<u>\$ 59,907</u>	<u>\$ 101</u>	<u>\$ 1,809,143</u>	<u>\$ (158)</u>	<u>\$ 1,749,179</u>

All mortgage-backed securities included in the above table were issued by U.S. government agencies and corporations. The carrying value of held-to-maturity securities pledged to secure public funds, trust deposits, repurchase agreements and for other purposes, as required or permitted by law was \$271.6 million and \$642.3 million at September 30, 2022 and December 31, 2021, respectively. Accrued interest receivable on held-to-maturity securities totaled \$11.5 million and \$18.4 million at September 30, 2022 and December 31, 2021, respectively and is included in accrued interest receivable and other assets in the accompanying consolidated balance sheets.

From time to time, we have reclassified certain securities from available for sale to held to maturity. The net unamortized, unrealized gain remaining on transferred securities included in accumulated other comprehensive income in the accompanying balance sheet totaled \$2.0 million (\$1.6 million, net of tax) at September 30, 2022 and \$2.5 million (\$2.0 million, net of tax) at December 31, 2021. This amount will be amortized out of accumulated other comprehensive income over the remaining life of the underlying securities as an adjustment of the yield on those securities.

The following table summarizes Moody's and/or Standard & Poor's bond ratings for our portfolio of held-to-maturity securities issued by States and political subdivisions and other securities as of September 30, 2022 and December 31, 2021:

	States and Political Subdivisions				Other Securities
	Not Guaranteed or Pre-Refunded	Guaranteed by the Texas PSF	Pre-Refunded	Total	
September 30, 2022					
Aaa/AAA	\$ 220,180	\$ 1,116,482	\$ 121,042	\$ 1,457,704	\$ —
Aa/AA	188,641	—	—	188,641	—
Not rated	—	—	—	—	1,500
Total	<u>\$ 408,821</u>	<u>\$ 1,116,482</u>	<u>\$ 121,042</u>	<u>\$ 1,646,345</u>	<u>\$ 1,500</u>
December 31, 2021					
Aaa/AAA	\$ 92,379	\$ 460,648	\$ 563,251	\$ 1,116,278	\$ —
Aa/AA	104,295	—	—	104,295	—
Not rated	—	—	—	—	1,500
Total	<u>\$ 196,674</u>	<u>\$ 460,648</u>	<u>\$ 563,251</u>	<u>\$ 1,220,573</u>	<u>\$ 1,500</u>

The following table details activity in the allowance for credit losses on held-to-maturity securities during the three and nine months ended September 30, 2022 and 2021.

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
Beginning balance	\$ 158	\$ 158	\$ 158	\$ 160
Credit loss expense (benefit)	—	—	—	(2)
Ending balance	\$ 158	\$ 158	\$ 158	\$ 158

Securities - Available for Sale. A summary of the amortized cost, fair value and allowance for credit losses related to securities available for sale as of September 30, 2022 and December 31, 2021 is presented below.

	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Allowance for Credit Losses	Estimated Fair Value
September 30, 2022					
U.S. Treasury	\$ 5,447,478	\$ —	\$ 424,861	\$ —	\$ 5,022,617
Residential mortgage-backed securities	6,685,418	1,293	987,902	—	5,698,809
States and political subdivisions	7,121,730	1,395	487,827	—	6,635,298
Other	42,383	—	—	—	42,383
Total	\$ 19,297,009	\$ 2,688	\$ 1,900,590	\$ —	\$ 17,399,107
December 31, 2021					
U.S. Treasury	\$ 2,165,702	\$ 23,333	\$ 9,602	\$ —	\$ 2,179,433
Residential mortgage-backed securities	4,059,692	31,662	25,089	—	4,066,265
States and political subdivisions	7,178,135	463,810	5,374	—	7,636,571
Other	42,359	—	—	—	42,359
Total	\$ 13,445,888	\$ 518,805	\$ 40,065	\$ —	\$ 13,924,628

All mortgage-backed securities included in the above table were issued by U.S. government agencies and corporations. At September 30, 2022, all of the securities in our available for sale municipal bond portfolio were issued by the State of Texas or political subdivisions or agencies within the State of Texas, of which approximately 75.1% are either guaranteed by the PSF or have been pre-refunded. Securities with limited marketability, such as stock in the Federal Reserve Bank and the Federal Home Loan Bank, are carried at cost and are reported as other available for sale securities in the table above. The carrying value of available-for-sale securities pledged to secure public funds, trust deposits, repurchase agreements and for other purposes, as required or permitted by law was \$4.9 billion and \$5.8 billion at September 30, 2022 and December 31, 2021, respectively. Accrued interest receivable on available-for-sale securities totaled \$99.7 million and \$120.5 million at September 30, 2022 and December 31, 2021, respectively, and is included in accrued interest receivable and other assets in the accompanying consolidated balance sheets.

The table below summarizes, as of September 30, 2022, securities available for sale in an unrealized loss position for which an allowance for credit losses has not been recorded, aggregated by type of security and length of time in a continuous unrealized loss position.

	Less than 12 Months		More than 12 Months		Total	
	Estimated Fair Value	Unrealized Losses	Estimated Fair Value	Unrealized Losses	Estimated Fair Value	Unrealized Losses
U.S. Treasury	\$ 4,429,609	\$ 323,346	\$ 593,008	\$ 101,515	\$ 5,022,617	\$ 424,861
Residential mortgage-backed securities	4,280,074	713,685	1,032,311	274,217	5,312,385	987,902
States and political subdivisions	5,943,551	412,938	194,456	74,889	6,138,007	487,827
Total	\$ 14,653,234	\$ 1,449,969	\$ 1,819,775	\$ 450,621	\$ 16,473,009	\$ 1,900,590

As of September 30, 2022, no allowance for credit losses has been recognized on available for sale securities in an unrealized loss position as management does not believe any of the securities are impaired due to reasons of credit quality. This is based upon our analysis of the underlying risk characteristics, including credit ratings, and other qualitative factors related to our available for sale securities and in consideration of our historical credit loss experience and internal forecasts. The issuers of these securities continue to make timely principal and interest payments under the contractual terms of the securities. Furthermore, management does not have the intent to sell any of the securities classified as available for sale in the table above and believes that it is more likely than not that we will not have to sell any such securities before a recovery of cost. The

unrealized losses are due to increases in market interest rates over the yields available at the time the underlying securities were purchased. The fair value is expected to recover as the securities approach their maturity date or repricing date or if market yields for such investments decline.

Contractual Maturities. The following table summarizes the maturity distribution schedule of securities held to maturity and securities available for sale as of September 30, 2022. Mortgage-backed securities are included in maturity categories based on their stated maturity date. Expected maturities may differ from contractual maturities because issuers may have the right to call or prepay obligations. Other securities classified as available for sale include stock in the Federal Reserve Bank and the Federal Home Loan Bank, which have no maturity date. These securities have been included in the total column only.

	Within 1 Year	1 - 5 Years	5 - 10 Years	After 10 Years	Total
Held To Maturity					
<i>Amortized Cost</i>					
Residential mortgage-backed securities	\$ —	\$ —	\$ 514,321	\$ 12,076	\$ 526,397
States and political subdivisions	121,042	29,534	9,880	1,485,889	1,646,345
Other	—	1,500	—	—	1,500
Total	<u>\$ 121,042</u>	<u>\$ 31,034</u>	<u>\$ 524,201</u>	<u>\$ 1,497,965</u>	<u>\$ 2,174,242</u>
<i>Estimated Fair Value</i>					
Residential mortgage-backed securities	\$ —	\$ —	\$ 448,514	\$ 9,859	\$ 458,373
States and political subdivisions	120,786	29,362	9,850	1,297,473	1,457,471
Other	—	1,443	—	—	1,443
Total	<u>\$ 120,786</u>	<u>\$ 30,805</u>	<u>\$ 458,364</u>	<u>\$ 1,307,332</u>	<u>\$ 1,917,287</u>
Available For Sale					
<i>Amortized Cost</i>					
U. S. Treasury	\$ —	\$ 3,821,606	\$ 1,433,912	\$ 191,960	\$ 5,447,478
Residential mortgage-backed securities	28	9,355	17,253	6,658,782	6,685,418
States and political subdivisions	250,317	1,470,384	944,279	4,456,750	7,121,730
Other	—	—	—	—	42,383
Total	<u>\$ 250,345</u>	<u>\$ 5,301,345</u>	<u>\$ 2,395,444</u>	<u>\$ 11,307,492</u>	<u>\$ 19,297,009</u>
<i>Estimated Fair Value</i>					
U. S. Treasury	\$ —	\$ 3,648,015	\$ 1,232,969	\$ 141,633	\$ 5,022,617
Residential mortgage-backed securities	27	9,130	17,167	5,672,485	5,698,809
States and political subdivisions	250,875	1,462,732	894,174	4,027,517	6,635,298
Other	—	—	—	—	42,383
Total	<u>\$ 250,902</u>	<u>\$ 5,119,877</u>	<u>\$ 2,144,310</u>	<u>\$ 9,841,635</u>	<u>\$ 17,399,107</u>

Sales of Securities. No held to maturity or available for sale securities were sold during the three or nine months ended September 30, 2022 or 2021.

Premiums and Discounts. Premium amortization and discount accretion included in interest income on securities was as follows:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
Premium amortization	\$ (27,165)	\$ (30,240)	\$ (84,278)	\$ (92,016)
Discount accretion	4,062	657	7,950	1,999
Net (premium amortization) discount accretion	<u>\$ (23,103)</u>	<u>\$ (29,583)</u>	<u>\$ (76,328)</u>	<u>\$ (90,017)</u>

Trading Account Securities. Trading account securities, at estimated fair value, were as follows:

	September 30, 2022	December 31, 2021
U.S. Treasury	\$ 25,008	\$ 24,237
States and political subdivisions	—	925
Total	<u>\$ 25,008</u>	<u>\$ 25,162</u>

Net gains and losses on trading account securities were as follows:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
Net gain on sales transactions	\$ 1,110	\$ 314	\$ 2,462	\$ 716
Net mark-to-market gains (losses)	9	(2)	(235)	(71)
Net gain (loss) on trading account securities	<u>\$ 1,119</u>	<u>\$ 312</u>	<u>\$ 2,227</u>	<u>\$ 645</u>

Note 3 - Loans

Loans were as follows:

	September 30, 2022	December 31, 2021
Commercial and industrial	\$ 5,531,820	\$ 5,364,954
Energy:		
Production	701,975	878,436
Service	127,065	105,901
Other	89,085	93,455
Total energy	918,125	1,077,792
Paycheck Protection Program	51,048	428,882
Commercial real estate:		
Commercial mortgages	6,149,504	5,867,062
Construction	1,557,415	1,304,271
Land	524,423	405,277
Total commercial real estate	8,231,342	7,576,610
Consumer real estate:		
Home equity loans	401,234	324,157
Home equity lines of credit	661,618	519,098
Other	652,884	567,535
Total consumer real estate	1,715,736	1,410,790
Total real estate	9,947,078	8,987,400
Consumer and other	502,558	477,369
Total loans	<u>\$ 16,950,629</u>	<u>\$ 16,336,397</u>

Concentrations of Credit. Most of our lending activity occurs within the State of Texas, including the four largest metropolitan areas of Austin, Dallas/Ft. Worth, Houston and San Antonio, as well as other markets. The majority of our loan portfolio consists of commercial and industrial and commercial real estate loans. As of September 30, 2022, there were no concentrations of loans related to any single industry in excess of 10% of total loans. The largest industry concentration was related to the energy industry, which totaled 5.4% of total loans (also 5.4% excluding PPP loans). Unfunded commitments to extend credit and standby letters of credit issued to customers in the energy industry totaled \$1.1 billion and \$117.0 million, respectively, as of September 30, 2022.

Foreign Loans. We have U.S. dollar denominated loans and commitments to borrowers in Mexico. The outstanding balance of these loans and the unfunded amounts available under these commitments were not significant at September 30, 2022 or December 31, 2021.

Related Party Loans. In the ordinary course of business, we have granted loans to certain directors, executive officers and their affiliates (collectively referred to as “related parties”). Such loans totaled \$356.4 million at September 30, 2022 and \$350.5 million at December 31, 2021.

Accrued Interest Receivable. Accrued interest receivable on loans totaled \$48.7 million and \$40.0 million at September 30, 2022 and December 31, 2021, respectively and is included in accrued interest receivable and other assets in the accompany consolidated balance sheets.

Non-Accrual and Past Due Loans. Loans are considered past due if the required principal and interest payments have not been received as of the date such payments were due. Loans are placed on non-accrual status when, in management's opinion, the borrower may be unable to meet payment obligations as they become due, as well as when required by regulatory provisions.

Non-accrual loans, segregated by class of loans, were as follows:

	September 30, 2022		December 31, 2021	
	Total Non-Accrual	Non-Accrual with No Credit Loss Allowance	Total Non-Accrual	Non-Accrual with No Credit Loss Allowance
Commercial and industrial	\$ 7,267	\$ 4,425	\$ 22,582	\$ 4,701
Energy	16,134	7,277	14,433	8,533
Paycheck Protection Program	—	—	—	—
Commercial real estate:				
Buildings, land and other	5,489	2,497	15,297	13,817
Construction	—	—	948	—
Consumer real estate	1,014	712	440	138
Consumer and other	—	—	13	13
Total	\$ 29,904	\$ 14,911	\$ 53,713	\$ 27,202

The following table presents non-accrual loans as of September 30, 2022 by class and year of origination.

	2022	2021	2020	2019	2018	Prior	Revolving Loans	Revolving Loans Converted to Term	Total
Commercial and industrial	\$ —	\$ 85	\$ 1,065	\$ 3,245	\$ 1,439	\$ 234	\$ 467	\$ 732	\$ 7,267
Energy	5,154	—	72	1,394	15	—	7,746	1,753	16,134
Paycheck Protection Program	—	—	—	—	—	—	—	—	—
Commercial real estate:									
Buildings, land and other	1,083	2,408	—	223	275	1,500	—	—	5,489
Construction	—	—	—	—	—	—	—	—	—
Consumer real estate	—	—	—	—	—	363	—	651	1,014
Consumer and other	—	—	—	—	—	—	—	—	—
Total	\$ 6,237	\$ 2,493	\$ 1,137	\$ 4,862	\$ 1,729	\$ 2,097	\$ 8,213	\$ 3,136	\$ 29,904

Had non-accrual loans performed in accordance with their original contract terms, we would have recognized additional interest income, net of tax, of approximately \$372 thousand and \$1.2 million for the three and nine months ended September 30, 2022, respectively, and approximately \$474 thousand and \$1.4 million for the three and nine months ended September 30, 2021, respectively.

An age analysis of past due loans (including both accruing and non-accruing loans), segregated by class of loans, as of September 30, 2022 was as follows:

	Loans 30-89 Days Past Due	Loans 90 or More Days Past Due	Total Past Due Loans	Current Loans	Total Loans	Accruing Loans 90 or More Days Past Due
Commercial and industrial	\$ 26,481	\$ 4,629	\$ 31,110	\$ 5,500,710	\$ 5,531,820	\$ 2,443
Energy	2,211	7,745	9,956	908,169	918,125	—
Paycheck Protection Program	13,841	7,879	21,720	29,328	51,048	7,879
Commercial real estate:						
Buildings, land and other	20,434	2,341	22,775	6,651,152	6,673,927	1,731
Construction	1,238	—	1,238	1,556,177	1,557,415	—
Consumer real estate	7,169	2,110	9,279	1,706,457	1,715,736	1,803
Consumer and other	5,611	491	6,102	496,456	502,558	491
Total	\$ 76,985	\$ 25,195	\$ 102,180	\$ 16,848,449	\$ 16,950,629	\$ 14,347

Troubled Debt Restructurings. Troubled debt restructurings during the nine months ended September 30, 2022 and 2021 are set forth in the following table.

	Nine Months Ended September 30, 2022		Nine Months Ended September 30, 2021	
	Balance at Restructure	Balance at Period-End	Balance at Restructure	Balance at Period-End
Commercial and industrial	\$ —	\$ —	\$ 1,312	\$ 1,237
Energy	—	—	3,817	3,566
Commercial real estate:				
Buildings, land and other	1,155	1,083	1,888	1,875
	<u>\$ 1,155</u>	<u>\$ 1,083</u>	<u>\$ 7,017</u>	<u>\$ 6,678</u>

Loan modifications are typically related to extending amortization periods, converting loans to interest only for a limited period of time, deferral of interest payments, waiver of certain covenants, consolidating notes and/or reducing collateral or interest rates. The modifications during the reported periods did not significantly impact our determination of the allowance for credit losses on loans.

Information as of or for the nine months ended September 30, 2022 and 2021 related to loans restructured during the preceding twelve months is set forth in the following table.

	September 30, 2022	September 30, 2021
Restructured loans past due in excess of 90 days at period-end:		
Number of loans	—	1
Dollar amount of loans	\$ —	\$ 306
Restructured loans on non-accrual status at period end	1,083	5,072
Charge-offs of restructured loans:		
Recognized in connection with restructuring	—	—
Recognized on previously restructured loans	723	1,433
Proceeds from sale of restructured loans	1,070	—

Credit Quality Indicators. As part of the on-going monitoring of the credit quality of our loan portfolio, management tracks certain credit quality indicators including trends related to (i) the weighted-average risk grade of commercial loans, (ii) the level of classified commercial loans, (iii) the delinquency status of consumer loans, (iv) non-performing loans (see details above) and (v) the general economic conditions in the State of Texas.

We utilize a risk grading matrix to assign a risk grade to each of our commercial loans. Loans are graded on a scale of 1 to 14. A description of the general characteristics of the 14 risk grades is set forth in our 2021 Form 10-K. We monitor portfolio credit quality by the weighted-average risk grade of each class of commercial loan. Individual relationship managers, under the oversight of credit administration, review updated financial information for all pass grade loans to reassess the risk grade on at least an annual basis. When a loan has a risk grade of 9, it is still considered a pass grade loan; however, it is considered to be on management's "watch list," where a significant risk-modifying action is anticipated in the near term. When a loan has a risk grade of 10 or higher, a special assets officer monitors the loan on an on-going basis.

The following tables present weighted-average risk grades for all commercial loans, by class and year of origination/renewal as of September 30, 2022. Paycheck Protection Program (“PPP”) loans are excluded as such loans are fully guaranteed by the Small Business Administration (“SBA”).

	2022	2021	2020	2019	2018	Prior	Revolving Loans	Revolving Loans Converted to Term	Total	W/A Risk Grade
Commercial and industrial										
Risk grades 1-8	\$ 1,214,942	\$ 706,035	\$ 529,894	\$ 242,581	\$ 136,161	\$ 199,629	\$ 2,180,437	\$ 47,088	\$ 5,256,767	6.25
Risk grade 9	34,065	28,895	6,211	6,909	12,436	9,923	94,984	11,133	204,556	9.00
Risk grade 10	2,131	636	814	4,513	1,518	143	21,207	2,207	33,169	10.00
Risk grade 11	35	3,984	6,444	4,332	1,391	1,942	8,188	3,745	30,061	11.00
Risk grade 12	—	85	837	2,975	1,419	234	467	436	6,453	12.00
Risk grade 13	—	—	228	270	20	—	—	296	814	13.00
	<u>\$ 1,251,173</u>	<u>\$ 739,635</u>	<u>\$ 544,428</u>	<u>\$ 261,580</u>	<u>\$ 152,945</u>	<u>\$ 211,871</u>	<u>\$ 2,305,283</u>	<u>\$ 64,905</u>	<u>\$ 5,531,820</u>	6.41
W/A risk grade	6.44	7.05	6.04	6.66	6.92	5.73	6.25	7.57	6.41	
Energy										
Risk grades 1-8	\$ 319,910	\$ 105,110	\$ 5,238	\$ 5,674	\$ 2,346	\$ 4,146	\$ 386,836	\$ 45,123	\$ 874,383	5.61
Risk grade 9	1,722	147	245	659	829	—	10,016	35	13,653	9.00
Risk grade 10	—	—	—	456	226	—	—	47	729	10.00
Risk grade 11	8,714	186	173	3,183	819	151	—	—	13,226	11.00
Risk grade 12	4,104	—	72	1,394	15	—	4,571	303	10,459	12.00
Risk grade 13	1,050	—	—	—	—	—	3,175	1,450	5,675	13.00
	<u>\$ 335,500</u>	<u>\$ 105,443</u>	<u>\$ 5,728</u>	<u>\$ 11,366</u>	<u>\$ 4,235</u>	<u>\$ 4,297</u>	<u>\$ 404,598</u>	<u>\$ 46,958</u>	<u>\$ 918,125</u>	5.86
W/A risk grade	6.22	5.64	7.67	8.81	8.52	6.70	5.40	6.46	5.86	
Commercial real estate:										
Buildings, land, other										
Risk grades 1-8	\$ 1,434,936	\$ 1,556,836	\$ 936,889	\$ 731,589	\$ 361,215	\$ 868,933	\$ 101,817	\$ 105,168	\$ 6,097,383	6.91
Risk grade 9	51,425	20,259	109,106	79,833	24,749	54,595	4,558	2,134	346,659	9.00
Risk grade 10	33,233	14,484	11,364	42,672	29,990	6,012	—	—	137,755	10.00
Risk grade 11	12,808	14,684	4,520	6,393	6,401	38,266	2,993	576	86,641	11.00
Risk grade 12	613	2,082	—	223	275	1,500	—	—	4,693	12.00
Risk grade 13	470	326	—	—	—	—	—	—	796	13.00
	<u>\$ 1,533,485</u>	<u>\$ 1,608,671</u>	<u>\$ 1,061,879</u>	<u>\$ 860,710</u>	<u>\$ 422,630</u>	<u>\$ 969,306</u>	<u>\$ 109,368</u>	<u>\$ 107,878</u>	<u>\$ 6,673,927</u>	7.14
W/A risk grade	7.11	7.19	7.27	7.20	7.35	6.90	7.26	6.45	7.14	
Construction										
Risk grades 1-8	\$ 464,837	\$ 568,694	\$ 162,262	\$ 35,986	\$ 490	\$ 1,762	\$ 243,723	\$ 4,414	\$ 1,482,168	6.85
Risk grade 9	11,270	2,253	2,100	—	—	—	17,382	—	33,005	9.00
Risk grade 10	28,851	75	—	—	—	—	—	—	28,926	10.00
Risk grade 11	—	—	—	13,316	—	—	—	—	13,316	11.00
Risk grade 12	—	—	—	—	—	—	—	—	—	12.00
Risk grade 13	—	—	—	—	—	—	—	—	—	13.00
	<u>\$ 504,958</u>	<u>\$ 571,022</u>	<u>\$ 164,362</u>	<u>\$ 49,302</u>	<u>\$ 490</u>	<u>\$ 1,762</u>	<u>\$ 261,105</u>	<u>\$ 4,414</u>	<u>\$ 1,557,415</u>	6.99
W/A risk grade	7.11	7.21	6.55	8.08	6.00	6.76	6.36	5.01	6.99	
Total commercial real estate	<u>\$ 2,038,443</u>	<u>\$ 2,179,693</u>	<u>\$ 1,226,241</u>	<u>\$ 910,012</u>	<u>\$ 423,120</u>	<u>\$ 971,068</u>	<u>\$ 370,473</u>	<u>\$ 112,292</u>	<u>\$ 8,231,342</u>	7.11
W/A risk grade	7.11	7.20	7.17	7.24	7.35	6.90	6.63	6.39	7.11	

In the table above, certain loans are reported as 2022 originations and have risk grades of 11 or higher. These loans were, for the most part, first originated in various years prior to 2022 but were renewed in the current year.

The following tables present weighted average risk grades for all commercial loans by class as of December 31, 2021. Refer to our 2021 Form 10-K for details of these loans by year of origination/renewal.

	Commercial and Industrial		Energy		Commercial Real Estate - Buildings, Land and Other		Commercial Real Estate - Construction		Total Commercial Real Estate	
	W/A Risk Grade	Loans	W/A Risk Grade	Loans	W/A Risk Grade	Loans	W/A Risk Grade	Loans	W/A Risk Grade	Loans
Risk grades 1-8	6.01	\$ 5,063,847	5.78	\$ 1,008,370	6.91	\$ 5,574,922	6.99	\$ 1,262,200	6.92	\$ 6,837,122
Risk grade 9	9.00	187,870	9.00	36,622	9.00	321,533	9.00	41,123	9.00	362,656
Risk grade 10	10.00	59,137	10.00	1,773	10.00	269,447	10.00	—	10.00	269,447
Risk grade 11	11.00	31,518	11.00	16,594	11.00	91,140	11.00	—	11.00	91,140
Risk grade 12	12.00	12,535	12.00	8,953	12.00	15,097	12.00	748	12.00	15,845
Risk grade 13	13.00	10,047	13.00	5,480	13.00	200	13.00	200	13.00	400
Total	6.22	\$ 5,364,954	6.06	\$ 1,077,792	7.22	\$ 6,272,339	7.06	\$ 1,304,271	7.19	\$ 7,576,610

Information about the payment status of consumer loans, segregated by portfolio segment and year of origination, as of September 30, 2022 was as follows:

	2022	2021	2020	2019	2018	Prior	Revolving Loans	Revolving Loans Converted to Term	Total
Consumer real estate:									
Past due 30-89 days	\$ 90	\$ 726	\$ 689	\$ 503	\$ 405	\$ 1,605	\$ 1,549	\$ 1,602	\$ 7,169
Past due 90 or more days	—	—	64	341	151	1,116	208	230	2,110
Total past due	90	726	753	844	556	2,721	1,757	1,832	9,279
Current loans	283,431	317,862	201,281	74,855	41,146	129,830	649,300	8,752	1,706,457
Total	\$ 283,521	\$ 318,588	\$ 202,034	\$ 75,699	\$ 41,702	\$ 132,551	\$ 651,057	\$ 10,584	\$ 1,715,736
Consumer and other:									
Past due 30-89 days	\$ 1,985	\$ 245	\$ 935	\$ 51	\$ 6	\$ 43	\$ 218	\$ 2,128	\$ 5,611
Past due 90 or more days	435	—	—	16	—	—	1	39	491
Total past due	2,420	245	935	67	6	43	219	2,167	6,102
Current loans	46,561	24,877	7,985	3,428	1,499	1,732	388,104	22,270	496,456
Total	\$ 48,981	\$ 25,122	\$ 8,920	\$ 3,495	\$ 1,505	\$ 1,775	\$ 388,323	\$ 24,437	\$ 502,558

Revolving loans that converted to term during the three and nine months ended September 30, 2022 and 2021 were as follows:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
Commercial and industrial	\$ 2,368	\$ 12,009	\$ 22,579	\$ 39,551
Energy	1,582	52,055	1,806	57,871
Commercial real estate:				
Buildings, land and other	—	6,012	10,759	37,093
Construction	—	—	4,414	—
Consumer real estate	700	330	2,223	1,172
Consumer and other	1,963	1,523	7,691	7,017
Total	\$ 6,613	\$ 71,929	\$ 49,472	\$ 142,704

In assessing the general economic conditions in the State of Texas, management monitors and tracks the Texas Leading Index (“TLI”), which is produced by the Federal Reserve Bank of Dallas. The TLI, the components of which are more fully described in our 2021 Form 10-K, totaled 130.3 at September 30, 2022 and 135.9 at December 31, 2021. A lower TLI value implies less favorable economic conditions.

Allowance For Credit Losses - Loans. The allowance for credit losses on loans is a contra-asset valuation account, calculated in accordance with ASC 326, that is deducted from the amortized cost basis of loans to present the net amount expected to be collected. The amount of the allowance represents management's best estimate of current expected credit losses on loans considering available information, from internal and external sources, relevant to assessing collectibility over the loans' contractual terms, adjusted for expected prepayments when appropriate. Credit loss expense related to loans reflects the totality of actions taken on all loans for a particular period including any necessary increases or decreases in the allowance related to changes in credit loss expectations associated with specific loans or pools of loans. Portions of the allowance may be allocated for specific credits; however, the entire allowance is available for any credit that, in management's judgment, should be charged off. While management utilizes its best judgment and information available, the ultimate appropriateness of the allowance is dependent upon a variety of factors beyond our control, including the performance of our loan portfolio, the economy, changes in interest rates and the view of the regulatory authorities toward loan classifications. Our allowance methodology is more fully described in our 2021 Form 10-K.

The following table presents details of the allowance for credit losses on loans segregated by loan portfolio segment as of September 30, 2022 and December 31, 2021. No allowance for credit losses has been recognized for PPP loans as such loans are fully guaranteed by the SBA.

	Commercial and Industrial	Energy	Commercial Real Estate	Consumer Real Estate	Consumer and Other	Total
September 30, 2022						
Modeled expected credit losses	\$ 57,625	\$ 8,657	\$ 24,404	\$ 7,797	\$ 5,459	\$ 103,942
Q-Factor and other qualitative adjustments	39,931	4,519	74,307	156	2,533	121,446
Specific allocations	1,274	5,675	1,896	82	—	8,927
Total	\$ 98,830	\$ 18,851	\$ 100,607	\$ 8,035	\$ 7,992	\$ 234,315
December 31, 2021						
Modeled expected credit losses	\$ 46,946	\$ 6,363	\$ 16,676	\$ 6,484	\$ 6,397	\$ 82,866
Q-Factor and other qualitative adjustments	14,609	5,374	127,860	65	1,440	149,348
Specific allocations	10,536	5,480	400	36	—	16,452
Total	\$ 72,091	\$ 17,217	\$ 144,936	\$ 6,585	\$ 7,837	\$ 248,666

The following table details activity in the allowance for credit losses on loans by portfolio segment for the three and nine months ended September 30, 2022 and 2021. Allocation of a portion of the allowance to one category of loans does not preclude its availability to absorb losses in other categories. No allowance for credit losses has been recognized for PPP loans as such loans are fully guaranteed by the SBA.

	Commercial and Industrial	Energy	Commercial Real Estate	Consumer Real Estate	Consumer and Other	Total
Three months ended:						
September 30, 2022						
Beginning balance	\$ 87,270	\$ 16,267	\$ 117,106	\$ 6,854	\$ 12,135	\$ 239,632
Credit loss expense (benefit)	10,844	2,491	(16,522)	940	(216)	(2,463)
Charge-offs	(572)	—	—	(68)	(6,549)	(7,189)
Recoveries	1,288	93	23	309	2,622	4,335
Net (charge-offs) recoveries	716	93	23	241	(3,927)	(2,854)
Ending balance	\$ 98,830	\$ 18,851	\$ 100,607	\$ 8,035	\$ 7,992	\$ 234,315
September 30, 2021						
Beginning balance	\$ 65,271	\$ 28,010	\$ 147,993	\$ 6,154	\$ 7,860	\$ 255,288
Credit loss expense (benefit)	(1,020)	(7,720)	4,007	(982)	2,692	(3,023)
Charge-offs	(1,611)	—	—	—	(5,073)	(6,684)
Recoveries	1,126	159	54	857	2,373	4,569
Net (charge-offs) recoveries	(485)	159	54	857	(2,700)	(2,115)
Ending balance	\$ 63,766	\$ 20,449	\$ 152,054	\$ 6,029	\$ 7,852	\$ 250,150

	Commercial and Industrial	Energy	Commercial Real Estate	Consumer Real Estate	Consumer and Other	Total
Nine months ended:						
September 30, 2022						
Beginning balance	\$ 72,091	\$ 17,217	\$ 144,936	\$ 6,585	\$ 7,837	\$ 248,666
Credit loss expense (benefit)	29,347	874	(44,363)	1,497	10,250	(2,395)
Charge-offs	(5,918)	(371)	(702)	(430)	(17,642)	(25,063)
Recoveries	3,310	1,131	736	383	7,547	13,107
Net (charge-offs) recoveries	(2,608)	760	34	(47)	(10,095)	(11,956)
Ending balance	<u>\$ 98,830</u>	<u>\$ 18,851</u>	<u>\$ 100,607</u>	<u>\$ 8,035</u>	<u>\$ 7,992</u>	<u>\$ 234,315</u>
September 30, 2021						
Beginning balance	\$ 73,843	\$ 39,553	\$ 134,892	\$ 7,926	\$ 6,963	\$ 263,177
Credit loss expense (benefit)	(8,886)	(19,048)	16,583	(3,093)	7,042	(7,402)
Charge-offs	(4,485)	(1,433)	(137)	(672)	(13,015)	(19,742)
Recoveries	3,294	1,377	716	1,868	6,862	14,117
Net (charge-offs) recoveries	(1,191)	(56)	579	1,196	(6,153)	(5,625)
Ending balance	<u>\$ 63,766</u>	<u>\$ 20,449</u>	<u>\$ 152,054</u>	<u>\$ 6,029</u>	<u>\$ 7,852</u>	<u>\$ 250,150</u>

The following table presents loans that were evaluated for expected credit losses on an individual basis and the related specific allocations, by loan portfolio segment, as of September 30, 2022 and December 31, 2021.

	September 30, 2022		December 31, 2021	
	Loan Balance	Specific Allocations	Loan Balance	Specific Allocations
Commercial and industrial	\$ 8,655	\$ 1,274	\$ 24,523	\$ 10,536
Energy	15,947	5,675	16,393	5,480
Paycheck Protection Program	—	—	—	—
Commercial real estate:				
Buildings, land and other	19,790	1,896	24,670	200
Construction	—	—	948	200
Consumer real estate	934	82	303	36
Consumer and other	—	—	—	—
Total	<u>\$ 45,326</u>	<u>\$ 8,927</u>	<u>\$ 66,837</u>	<u>\$ 16,452</u>

Note 4 - Goodwill and Other Intangible Assets

Goodwill and other intangible assets are presented in the table below.

	September 30, 2022	December 31, 2021
Goodwill	<u>\$ 654,952</u>	<u>\$ 654,952</u>
Other intangible assets:		
Core deposits	\$ 395	\$ 718
Customer relationships	91	148
	<u>\$ 486</u>	<u>\$ 866</u>

The estimated aggregate future amortization expense for intangible assets remaining as of September 30, 2022 is as follows:

Remainder of 2022	\$ 101
2023	282
2024	87
2025	11
2026	5
	<u>\$ 486</u>

Note 5 - Deposits

Deposits were as follows:

	September 30, 2022	December 31, 2021
Non-interest-bearing demand deposits	\$ 18,565,820	\$ 18,423,018
Interest-bearing deposits:		
Savings and interest checking	12,399,351	11,930,959
Money market accounts	13,939,882	11,228,815
Time accounts	1,655,133	1,112,904
Total interest-bearing deposits	27,994,366	24,272,678
Total deposits	\$ 46,560,186	\$ 42,695,696

The following table presents additional information about our deposits:

	September 30, 2022	December 31, 2021
Deposits from foreign sources (primarily Mexico)	\$ 1,069,964	\$ 993,479
Non-interest-bearing public funds deposits	688,227	1,235,026
Interest-bearing public funds deposits	746,671	810,863
Total deposits not covered by deposit insurance	26,614,691	24,125,359
Time deposits not covered by deposit insurance	407,758	238,608

Note 6 - Off-Balance-Sheet Arrangements, Commitments, Guarantees and Contingencies

Financial Instruments with Off-Balance-Sheet Risk. In the normal course of business, we enter into various transactions, which, in accordance with generally accepted accounting principles are not included in our consolidated balance sheets. We enter into these transactions to meet the financing needs of our customers. As more fully discussed in our 2021 Form 10-K, these transactions include commitments to extend credit and standby letters of credit, which involve, to varying degrees, elements of credit risk and interest rate risk in excess of the amounts recognized in the consolidated balance sheets. We minimize our exposure to loss under these commitments by subjecting them to credit approval and monitoring procedures.

Financial instruments with off-balance-sheet risk were as follows:

	September 30, 2022	December 31, 2021
Commitments to extend credit	\$ 11,439,755	\$ 10,420,142
Standby letters of credit	383,720	238,690
Deferred standby letter of credit fees	2,144	2,072

Allowance For Credit Losses - Off-Balance-Sheet Credit Exposures. The allowance for credit losses on off-balance-sheet credit exposures is a liability account, calculated in accordance with ASC 326, representing expected credit losses over the contractual period for which we are exposed to credit risk resulting from a contractual obligation to extend credit. No allowance is recognized if we have the unconditional right to cancel the obligation. Off-balance-sheet credit exposures primarily consist of amounts available under outstanding lines of credit and letters of credit detailed in the table above. The amount of the allowance represents management's best estimate of expected credit losses on commitments expected to be funded over the contractual life of the commitment. Our allowance methodology is more fully described in our 2021 Form 10-K.

The following table details activity in the allowance for credit losses on off-balance-sheet credit exposures.

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
Beginning balance	\$ 50,246	\$ 48,596	\$ 50,314	\$ 44,152
Credit loss expense (benefit)	2,463	3,023	2,395	7,467
Ending balance	\$ 52,709	\$ 51,619	\$ 52,709	\$ 51,619

Lease Commitments. We lease certain office facilities and office equipment under operating leases. The components of total lease expense were as follows:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
Amortization of lease right-of-use assets	\$ 8,389	\$ 8,172	\$ 24,703	\$ 24,584
Short-term lease expense	536	384	1,639	1,118
Non-lease components (including taxes, insurance, common maintenance, etc.)	3,092	2,864	8,860	8,205
Total	<u>\$ 12,017</u>	<u>\$ 11,420</u>	<u>\$ 35,202</u>	<u>\$ 33,907</u>

Right-of-use lease assets totaled \$287.2 million at September 30, 2022 and \$281.4 million at December 31, 2021 and are reported as a component of premises and equipment on our accompanying consolidated balance sheets. The related lease liabilities totaled \$319.9 million at September 30, 2022 and \$313.4 million at December 31, 2021 and are reported as a component of accrued interest payable and other liabilities in the accompanying consolidated balance sheets. Lease payments under operating leases that were applied to our operating lease liability totaled \$8.2 million and \$24.6 million during the three and nine months ended September 30, 2022, respectively, and \$7.9 million and \$24.0 million during the three and nine months ended September 30, 2021, respectively. There has been no significant change in our expected future minimum lease payments since December 31, 2021. See the 2021 Form 10-K for information regarding these commitments.

Litigation. We are subject to various claims and legal actions that have arisen in the course of conducting business. Management does not expect the ultimate disposition of these matters to have a material adverse impact on our financial statements.

Note 7 - Capital and Regulatory Matters

Banks and bank holding companies are subject to various regulatory capital requirements administered by state and federal banking agencies. Capital adequacy guidelines and, additionally for banks, prompt corrective action regulations, involve quantitative measures of assets, liabilities, and certain off-balance-sheet items calculated under regulatory accounting practices. Capital amounts and classifications are also subject to qualitative judgments by regulators about components, risk weighting and other factors.

Cullen/Frost's and Frost Bank's Common Equity Tier 1 capital ("CET1") includes common stock and related paid-in capital, net of treasury stock, and retained earnings. In connection with the adoption of the Basel III Capital Rules, we elected to opt-out of the requirement to include most components of accumulated other comprehensive income in CET1. We also elected to exclude the effects of credit loss accounting under CECL from CET1 for a five-year transitional period, as further discussed in our 2021 Form 10-K. This CECL transitional adjustment totaled \$46.2 million and \$61.6 million at September 30, 2022 and December 31, 2021, respectively. CET1 is reduced by goodwill and other intangible assets, net of associated deferred tax liabilities. Frost Bank's CET1 is also reduced by its equity investment in its financial subsidiary, Frost Insurance Agency ("FIA").

Tier 1 capital includes CET1 and additional Tier 1 capital. For Cullen/Frost, additional Tier 1 capital included \$145.5 million of 4.450% non-cumulative perpetual preferred stock at September 30, 2022 and December 31, 2021, the details of which are further discussed below. Frost Bank did not have any additional Tier 1 capital beyond Common Equity Tier 1 at September 30, 2022 or December 31, 2021. Total capital includes Tier 1 capital and Tier 2 capital. Tier 2 capital for both Cullen/Frost and Frost Bank includes a permissible portion of the allowances for credit losses on securities, loans and off-balance-sheet credit exposures. Tier 2 capital for Cullen/Frost also includes the permissible portion of qualified subordinated debt (which decreases 20.0% per year during the final five years of the term of the notes) totaling \$80.0 million at September 30, 2022 and \$100.0 million at December 31, 2021 and trust preferred securities totaling \$120.0 million at both September 30, 2022 and December 31, 2021.

The following table presents actual and required capital ratios as of September 30, 2022 and December 31, 2021 for Cullen/Frost and Frost Bank under the Basel III Capital Rules. Capital levels required to be considered well-capitalized are based upon prompt corrective action regulations, as amended to reflect the changes under the Basel III Capital Rules. See the 2021 Form 10-K for a more detailed discussion of the Basel III Capital Rules.

	Actual		Minimum Capital Required Plus Capital Conservation Buffer		Required to be Considered Well- Capitalized ⁽¹⁾	
	Capital Amount	Ratio	Capital Amount	Ratio	Capital Amount	Ratio
September 30, 2022						
Common Equity Tier 1 to Risk-Weighted Assets						
Cullen/Frost	\$ 3,606,527	12.74 %	\$ 1,981,042	7.00 %	N/A	N/A
Frost Bank	3,595,393	12.71	1,979,976	7.00	1,838,550	6.50 %
Tier 1 Capital to Risk-Weighted Assets						
Cullen/Frost	3,751,979	13.26	2,405,550	8.50	1,698,036	6.00
Frost Bank	3,595,393	12.71	2,404,257	8.50	2,262,830	8.00
Total Capital to Risk-Weighted Assets						
Cullen/Frost	4,187,120	14.80	2,971,562	10.50	2,830,059	10.00
Frost Bank	3,830,534	13.54	2,969,965	10.50	2,828,538	10.00
Leverage Ratio						
Cullen/Frost	3,751,979	7.09	2,117,091	4.00	N/A	N/A
Frost Bank	3,595,393	6.79	2,117,519	4.00	2,646,898	5.00
December 31, 2021						
Common Equity Tier 1 to Risk-Weighted Assets						
Cullen/Frost	\$ 3,371,043	13.13 %	\$ 1,796,549	7.00 %	N/A	N/A
Frost Bank	3,261,532	12.72	1,795,221	7.00	1,666,991	6.50 %
Tier 1 Capital to Risk-Weighted Assets						
Cullen/Frost	3,516,495	13.70	2,181,523	8.50	1,539,899	6.00
Frost Bank	3,261,532	12.72	2,179,911	8.50	2,051,681	8.00
Total Capital to Risk-Weighted Assets						
Cullen/Frost	3,966,244	15.45	2,694,823	10.50	2,566,498	10.00
Frost Bank	3,491,281	13.61	2,692,831	10.50	2,564,601	10.00
Leverage Ratio						
Cullen/Frost	3,516,495	7.34	1,917,533	4.00	N/A	N/A
Frost Bank	3,261,532	6.80	1,917,679	4.00	2,397,099	5.00

(1) "Well-capitalized" minimum Common Equity Tier 1 to Risk-Weighted Assets and Leverage Ratio are not formally defined under applicable banking regulations for bank holding companies.

As of September 30, 2022, capital levels at Cullen/Frost and Frost Bank exceed all capital adequacy requirements under the Basel III Capital Rules. Based on the ratios presented above, capital levels as of September 30, 2022 at Cullen/Frost and Frost Bank exceed the minimum levels necessary to be considered "well-capitalized."

Cullen/Frost and Frost Bank are subject to the regulatory capital requirements administered by the Federal Reserve Board and, for Frost Bank, the Federal Deposit Insurance Corporation ("FDIC"). Regulatory authorities can initiate certain mandatory actions if Cullen/Frost or Frost Bank fail to meet the minimum capital requirements, which could have a direct material effect on our financial statements. Management believes, as of September 30, 2022, that Cullen/Frost and Frost Bank meet all capital adequacy requirements to which they are subject.

Preferred Stock. Outstanding preferred stock includes 150,000 shares, or \$150.0 million in aggregate liquidation preference, of our 4.450% Non-Cumulative Perpetual Preferred Stock, Series B, par value \$0.01 and liquidation preference \$1,000 per share ("Series B Preferred Stock"). Each share of Series B Preferred Stock issued and outstanding is represented by 40 depositary shares, each representing a 1/40th ownership interest in a share of the Series B Preferred Stock (equivalent to a liquidation preference of \$25 per share). The Series B Preferred Stock qualifies as Tier 1 capital for the purposes of the regulatory capital calculations. The net proceeds from the issuance and sale of the Series B Preferred Stock, after deducting \$4.5 million of issuance costs including the underwriting discount and professional service fees, among other things, were approximately \$145.5 million. Refer to our 2021 Form 10-K for additional details related to our Series B Preferred Stock.

Stock Repurchase Plans. From time to time, our board of directors has authorized stock repurchase plans. In general, stock repurchase plans allow us to proactively manage our capital position and return excess capital to shareholders. Shares purchased under such plans also provide us with shares of common stock necessary to satisfy obligations related to stock compensation awards. On January 26, 2022, our board of directors authorized a \$100.0 million stock repurchase program, allowing us to repurchase shares of our common stock over a one-year period from time to time at various prices in the open market or through private transactions. No shares have been repurchased under this plan or the prior plan during the reported periods. Under the Basel III Capital Rules, Cullen/Frost may not repurchase or redeem any of its preferred stock or subordinated notes and, in some cases, its common stock without the prior approval of the Federal Reserve Board.

Dividend Restrictions. In the ordinary course of business, Cullen/Frost is dependent upon dividends from Frost Bank to provide funds for the payment of dividends to shareholders and to provide for other cash requirements, including to repurchase its common stock. Banking regulations may limit the amount of dividends that may be paid. Approval by regulatory authorities is required if the effect of dividends declared would cause the regulatory capital of Frost Bank to fall below specified minimum levels. Approval is also required if dividends declared exceed the net profits for that year combined with the retained net profits for the preceding two years. Under the foregoing dividend restrictions and while maintaining its “well-capitalized” status, at September 30, 2022, Frost Bank could pay aggregate dividends of up to \$619.6 million to Cullen/Frost without prior regulatory approval.

Under the terms of the junior subordinated deferrable interest debentures that Cullen/Frost has issued to Cullen/Frost Capital Trust II, Cullen/Frost has the right at any time during the term of the debentures to defer the payment of interest at any time or from time to time for an extension period not exceeding 20 consecutive quarterly periods with respect to each extension period. In the event that we have elected to defer interest on the debentures, we may not, with certain exceptions, declare or pay any dividends or distributions on our capital stock or purchase or acquire any of our capital stock.

Note 8 - Derivative Financial Instruments

The fair value of derivative positions outstanding is included in accrued interest receivable and other assets and accrued interest payable and other liabilities in the accompanying consolidated balance sheets and in the net change in each of these financial statement line items in the accompanying consolidated statements of cash flows.

Interest Rate Derivatives. We utilize interest rate swaps, caps, swaptions and floors to mitigate exposure to interest rate risk and to facilitate the needs of our customers. Our objectives for utilizing these derivative instruments are described in our 2021 Form 10-K.

The notional amounts and estimated fair values of interest rate derivative contracts are presented in the following table. The fair values of interest rate derivative contracts are estimated utilizing internal valuation methods with observable market data inputs, or as determined by the Chicago Mercantile Exchange (“CME”) for centrally cleared derivative contracts. CME rules legally characterize variation margin payments for centrally cleared derivatives as settlements of the derivatives’ exposure rather than collateral. As a result, the variation margin payment and the related derivative instruments are considered a single unit of account for accounting and financial reporting purposes. Variation margin, as determined by the CME, is settled daily. As a result, derivative contracts that clear through the CME have an estimated fair value of zero as of September 30, 2022 and December 31, 2021.

	September 30, 2022		December 31, 2021	
	Notional Amount	Estimated Fair Value	Notional Amount	Estimated Fair Value
Derivatives designated as hedges of fair value:				
Financial institution counterparties:				
Loan/lease interest rate swaps – assets	\$ 1,679	\$ 25	\$ —	\$ —
Loan/lease interest rate swaps – liabilities	—	—	2,426	(34)
Non-hedging interest rate derivatives:				
Financial institution counterparties:				
Loan/lease interest rate swaps – assets	1,229,040	61,992	247,592	1,207
Loan/lease interest rate swaps – liabilities	126,112	(1,088)	928,756	(19,142)
Loan/lease interest rate caps – assets	243,840	15,777	270,431	3,239
Customer counterparties:				
Loan/lease interest rate swaps – assets	67,780	1,104	928,756	39,864
Loan/lease interest rate swaps – liabilities	1,185,815	(82,228)	247,592	(2,846)
Loan/lease interest rate caps – liabilities	243,840	(15,777)	270,431	(3,239)

The weighted-average rates paid and received for interest rate swaps outstanding at September 30, 2022 were as follows:

	Weighted-Average	
	Interest Rate Paid	Interest Rate Received
Interest rate swaps:		
Fair value hedge loan/lease interest rate swaps	1.58 %	2.56 %
Non-hedging interest rate swaps – financial institution counterparties	3.74	4.23
Non-hedging interest rate swaps – customer counterparties	4.21	3.73

The weighted-average strike rate for outstanding interest rate caps was 3.29% at September 30, 2022.

Commodity Derivatives. We enter into commodity swaps and option contracts that are not designated as hedging instruments primarily to accommodate the business needs of our customers. Upon the origination of a commodity swap or option contract with a customer, we simultaneously enter into an offsetting contract with a third party financial institution to mitigate the exposure to fluctuations in commodity prices.

The notional amounts and estimated fair values of non-hedging commodity swap and option derivative positions outstanding are presented in the following table. We obtain dealer quotations and use internal valuation methods with observable market data inputs to value our commodity derivative positions.

	Notional Units	September 30, 2022		December 31, 2021	
		Notional Amount	Estimated Fair Value	Notional Amount	Estimated Fair Value
Financial institution counterparties:					
Oil – assets	Barrels	4,467	\$ 45,381	4,809	\$ 14,721
Oil – liabilities	Barrels	6,987	(55,645)	7,032	(73,594)
Natural gas – assets	MMBTUs	13,406	4,033	15,947	4,143
Natural gas – liabilities	MMBTUs	20,489	(40,049)	29,446	(21,249)
Customer counterparties:					
Oil – assets	Barrels	7,006	56,366	7,046	74,437
Oil – liabilities	Barrels	4,448	(44,674)	4,796	(14,294)
Natural gas – assets	MMBTUs	20,489	40,153	29,446	21,456
Natural gas – liabilities	MMBTUs	13,406	(4,017)	15,947	(4,124)

Foreign Currency Derivatives. We enter into foreign currency forward and option contracts that are not designated as hedging instruments primarily to accommodate the business needs of our customers. Upon the origination of a foreign currency denominated transaction with a customer, we simultaneously enter into an offsetting contract with a third party financial institution to negate the exposure to fluctuations in foreign currency exchange rates. We also utilize foreign currency forward contracts and options that are not designated as hedging instruments to mitigate the economic effect of fluctuations in foreign currency exchange rates on foreign currency holdings and certain short-term, non-U.S. dollar denominated loans. The notional amounts and fair values of open foreign currency forward and option contracts were as follows:

	Notional Currency	September 30, 2022		December 31, 2021	
		Notional Amount	Estimated Fair Value	Notional Amount	Estimated Fair Value
Financial institution counterparties:					
Forward and option contracts – assets	EUR	2,925	\$ 1	1,900	\$ 29
Forward and option contracts – assets	CAD	—	—	658	—
Forward and option contracts – liabilities	EUR	2,925	(251)	—	—
Customer counterparties:					
Forward and option contracts – assets	EUR	2,925	251	—	—
Forward and option contracts – assets	CAD	—	—	658	4
Forward and option contracts – liabilities	EUR	2,925	(1)	1,900	(55)

Gains, Losses and Derivative Cash Flows. For fair value hedges, the changes in the fair value of both the derivative hedging instrument and the hedged item are included in other non-interest income or other non-interest expense. The extent that such changes in fair value do not offset represents hedge ineffectiveness. Net cash flows from interest rate swaps on commercial loans/leases designated as hedging instruments in effective hedges of fair value are included in interest income on loans. For non-hedging derivative instruments, gains and losses due to changes in fair value and all cash flows are included in other non-interest income and other non-interest expense.

Amounts included in the consolidated statements of income related to interest rate derivatives designated as hedges of fair value were as follows:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
Commercial loan/lease interest rate swaps:				
Amount of gain (loss) included in interest income on loans	\$ 2	\$ (21)	\$ (16)	\$ (74)
Amount of (gain) loss included in other non-interest expense	1	3	6	8

As stated above, we enter into non-hedge related derivative positions primarily to accommodate the business needs of our customers. Upon the origination of a derivative contract with a customer, we simultaneously enter into an offsetting derivative contract with a third party financial institution. We recognize immediate income based upon the difference in the bid/ask spread of the underlying transactions with our customers and the third party. Because we act only as an intermediary for our customer, subsequent changes in the fair value of the underlying derivative contracts for the most part offset each other and do not significantly impact our results of operations.

Amounts included in the consolidated statements of income related to non-hedge related derivative instruments are presented in the table below.

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
Non-hedging interest rate derivatives:				
Other non-interest income	\$ 140	\$ 946	\$ 1,171	\$ 2,674
Other non-interest expense	—	—	—	(1)
Non-hedging commodity derivatives:				
Other non-interest income	485	1,143	2,063	3,266
Non-hedging foreign currency derivatives:				
Other non-interest income	—	4	63	34

Counterparty Credit Risk. Our credit exposure relating to interest rate swaps, commodity swaps/options and foreign currency forward and option contracts with bank customers was approximately \$58.4 million at September 30, 2022. This credit exposure is partly mitigated as transactions with customers are generally secured by the collateral, if any, securing the underlying transaction being hedged. Our credit exposure, net of collateral pledged, relating to interest rate swaps, commodity swaps/options and foreign currency forward/option contracts with upstream financial institution counterparties was approximately \$20.2 million at September 30, 2022. This amount was primarily related to initial margin payments to the CME and excess collateral we posted to counterparties. Excess collateral is generally cleared on the next business day. Collateral levels for upstream financial institution counterparties are monitored and adjusted as necessary. See Note 9 – Balance Sheet Offsetting and Repurchase Agreements for additional information regarding our credit exposure with upstream financial institution counterparties. At September 30, 2022, the aggregate fair value of securities we posted as collateral related to derivative contracts totaled \$10.9 million. We also had \$12.9 million in cash collateral related to derivative contracts on deposit with other financial institution counterparties at September 30, 2022.

Note 9 - Balance Sheet Offsetting and Repurchase Agreements

Balance Sheet Offsetting. Certain financial instruments, including resell and repurchase agreements and derivatives, may be eligible for offset in the consolidated balance sheet and/or subject to master netting arrangements or similar agreements. Our derivative transactions with upstream financial institution counterparties are generally executed under International Swaps and Derivative Association (“ISDA”) master agreements which include “right of set-off” provisions. In such cases there is generally a legally enforceable right to offset recognized amounts and there may be an intention to settle such amounts on a net basis. Nonetheless, we do not generally offset such financial instruments for financial reporting purposes.

Information about financial instruments that are eligible for offset in the consolidated balance sheet as of September 30, 2022 is presented in the following tables.

	Gross Amount Recognized	Gross Amount Offset	Net Amount Recognized
September 30, 2022			
Financial assets:			
Derivatives:			
Loan/lease interest rate swaps and caps	\$ 77,794	\$ —	\$ 77,794
Commodity swaps and options	49,414	—	49,414
Foreign currency forward contracts	1	—	1
Total derivatives	127,209	—	127,209
Resell agreements	12,150	—	12,150
Total	<u>\$ 139,359</u>	<u>\$ —</u>	<u>\$ 139,359</u>
Financial liabilities:			
Derivatives:			
Loan/lease interest rate swaps and caps	\$ 1,088	\$ —	\$ 1,088
Commodity swaps and options	95,694	—	95,694
Foreign currency forward contracts	251	—	251
Total derivatives	97,033	—	97,033
Repurchase agreements	2,082,739	—	2,082,739
Total	<u>\$ 2,179,772</u>	<u>\$ —</u>	<u>\$ 2,179,772</u>

	Net Amount Recognized	Gross Amounts Not Offset		Net Amount
		Financial Instruments	Collateral	
September 30, 2022				
Financial assets:				
Derivatives:				
Counterparty A	\$ 47	\$ (47)	\$ —	\$ —
Counterparty B	44,271	(35,853)	(6,063)	2,355
Counterparty C	407	(251)	—	156
Other counterparties	82,484	(53,163)	(27,740)	1,581
Total derivatives	127,209	(89,314)	(33,803)	4,092
Resell agreements	12,150	—	(12,150)	—
Total	<u>\$ 139,359</u>	<u>\$ (89,314)</u>	<u>\$ (45,953)</u>	<u>\$ 4,092</u>
Financial liabilities:				
Derivatives:				
Counterparty A	\$ 1,081	\$ (47)	\$ (1,031)	\$ 3
Counterparty B	35,853	(35,853)	—	—
Counterparty C	251	(251)	—	—
Other counterparties	59,848	(53,163)	(6,685)	—
Total derivatives	97,033	(89,314)	(7,716)	3
Repurchase agreements	2,082,739	—	(2,082,739)	—
Total	<u>\$ 2,179,772</u>	<u>\$ (89,314)</u>	<u>\$ (2,090,455)</u>	<u>\$ 3</u>

Information about financial instruments that are eligible for offset in the consolidated balance sheet as of December 31, 2021 is presented in the following tables.

	Gross Amount Recognized	Gross Amount Offset	Net Amount Recognized
December 31, 2021			
Financial assets:			
Derivatives:			
Loan/lease interest rate swaps and caps	\$ 4,446	\$ —	\$ 4,446
Commodity swaps and options	18,864	—	18,864
Total derivatives	23,339	—	23,339
Resell agreements	7,903	—	7,903
Total	<u>\$ 31,242</u>	<u>\$ —</u>	<u>\$ 31,242</u>
Financial liabilities:			
Derivatives:			
Loan/lease interest rate swaps and caps	\$ 19,176	\$ —	\$ 19,176
Commodity swaps and options	94,843	—	94,843
Total derivatives	114,019	—	114,019
Repurchase agreements	2,740,799	—	2,740,799
Total	<u>\$ 2,854,818</u>	<u>\$ —</u>	<u>\$ 2,854,818</u>

	Net Amount Recognized	Gross Amounts Not Offset		Net Amount
		Financial Instruments	Collateral	
December 31, 2021				
Financial assets:				
Derivatives:				
Counterparty A	\$ 6	\$ (6)	\$ —	\$ —
Counterparty B	7,655	(7,655)	—	—
Other counterparties	15,678	(15,678)	—	—
Total derivatives	23,339	(23,339)	—	—
Resell agreements	7,903	—	(7,903)	—
Total	<u>\$ 31,242</u>	<u>\$ (23,339)</u>	<u>\$ (7,903)</u>	<u>\$ —</u>
Financial liabilities:				
Derivatives:				
Counterparty A	\$ 3,870	\$ (6)	\$ (3,864)	\$ —
Counterparty B	28,130	(7,655)	(20,475)	—
Counterparty C	9	—	(9)	—
Other counterparties	82,010	(15,678)	(66,225)	107
Total derivatives	114,019	(23,339)	(90,573)	107
Repurchase agreements	2,740,799	—	(2,740,799)	—
Total	<u>\$ 2,854,818</u>	<u>\$ (23,339)</u>	<u>\$ (2,831,372)</u>	<u>\$ 107</u>

Repurchase Agreements. We utilize securities sold under agreements to repurchase to facilitate the needs of our customers and to facilitate secured short-term funding needs. Securities sold under agreements to repurchase are stated at the amount of cash received in connection with the transaction. We monitor collateral levels on a continuous basis. We may be required to provide additional collateral based on the fair value of the underlying securities. Securities pledged as collateral under repurchase agreements are maintained with our safekeeping agents.

The remaining contractual maturity of repurchase agreements in the consolidated balance sheets as of September 30, 2022 and December 31, 2021 is presented in the following tables.

	Remaining Contractual Maturity of the Agreements				
	Overnight and Continuous	Up to 30 Days	30-90 Days	Greater than 90 Days	Total
September 30, 2022					
Repurchase agreements:					
U.S. Treasury	\$ 1,348,705	\$ —	\$ —	\$ —	\$ 1,348,705
Residential mortgage-backed securities	734,034	—	—	—	734,034
Total borrowings	<u>\$ 2,082,739</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ 2,082,739</u>
Gross amount of recognized liabilities for repurchase agreements					\$ 2,082,739
Amounts related to agreements not included in offsetting disclosures above					<u>\$ —</u>
December 31, 2021					
Repurchase agreements:					
U.S. Treasury	\$ 1,342,591	\$ —	\$ —	\$ —	\$ 1,342,591
Residential mortgage-backed securities	1,398,208	—	—	—	1,398,208
Total borrowings	<u>\$ 2,740,799</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ 2,740,799</u>
Gross amount of recognized liabilities for repurchase agreements					\$ 2,740,799
Amounts related to agreements not included in offsetting disclosures above					<u>\$ —</u>

Note 10 - Stock-Based Compensation

A combined summary of activity in our active stock plans is presented in the table below. Performance stock units outstanding are presented assuming attainment of the maximum payout rate as set forth by the performance criteria. As of September 30, 2022, there were 789,290 shares remaining available for grant for future stock-based compensation awards.

	Deferred Stock Units Outstanding		Non-Vested Stock Units Outstanding		Performance Stock Units Outstanding		Stock Options Outstanding	
	Number of Units	Weighted-Average Fair Value at Grant	Number of Units	Weighted-Average Fair Value at Grant	Number of Units	Weighted-Average Fair Value at Grant	Number of Shares	Weighted-Average Exercise Price
Balance, January 1, 2022	56,301	\$ 79.21	449,337	\$ 93.05	202,460	\$ 84.71	877,681	\$ 69.02
Authorized	—	—	—	—	—	—	—	—
Granted	5,382	133.67	4,676	130.30	—	—	—	—
Exercised/vested	(16,022)	74.89	—	—	(25,180)	87.18	(191,410)	61.44
Forfeited/expired	—	—	(5,603)	93.69	(16,058)	87.18	—	—
Balance, September 30, 2022	45,661	87.15	448,410	93.43	161,222	84.08	686,271	71.14

Shares issued in connection with stock compensation awards are issued from available treasury shares. If no treasury shares are available, new shares are issued from available authorized shares. Shares issued in connection with stock compensation awards along with other related information were as follows:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
New shares issued from available authorized shares	—	—	—	—
Shares issued from available treasury stock	88,350	21,968	232,612	650,044
Proceeds from stock option exercises	\$ 5,270	\$ 1,128	\$ 11,760	\$ 37,810

Stock-based compensation expense is recognized ratably over the requisite service period for all awards. For most stock option awards, the service period generally matches the vesting period. For stock options granted to certain executive officers and for non-vested stock units granted to all participants, the service period does not extend past the date the participant reaches 65 years of age. Deferred stock units granted to non-employee directors generally have immediate vesting and the related expense is fully recognized on the date of grant. For performance stock units, the service period generally matches the three-year performance period specified by the award, however, the service period does not extend past the date the participant reaches 65 years of age. Expense recognized each period is dependent upon our estimate of the number of shares that will ultimately be issued.

Stock-based compensation expense or benefit and the related income tax benefit is presented in the following table. The service period for performance stock units granted each year begins on January 1 of the following year.

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
Non-vested stock units	\$ 2,174	\$ 1,559	\$ 6,823	\$ 5,210
Deferred stock units	—	—	720	700
Performance stock units	999	426	1,160	1,846
Total	\$ 3,173	\$ 1,985	\$ 8,703	\$ 7,756
Income tax benefit	\$ 440	\$ 281	\$ 1,760	\$ 1,162

Unrecognized stock-based compensation expense at September 30, 2022 is presented in the table below. Unrecognized stock-based compensation expense related to performance stock units is presented assuming attainment of the maximum payout rate as set forth by the performance criteria.

Non-vested stock units	\$ 11,704
Performance stock units	7,257
Total	\$ 18,961

Note 11 - Earnings Per Common Share

Earnings per common share is computed using the two-class method as more fully described in our 2021 Form 10-K. The following table presents a reconciliation of net income available to common shareholders, net earnings allocated to common stock and the number of shares used in the calculation of basic and diluted earnings per common share.

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
Net income	\$ 169,760	\$ 107,975	\$ 387,976	\$ 342,058
Less: Preferred stock dividends	1,668	1,668	5,006	5,488
Net income available to common shareholders	168,092	106,307	382,970	336,570
Less: Earnings allocated to participating securities	1,503	932	3,414	3,228
Net earnings allocated to common stock	\$ 166,589	\$ 105,375	\$ 379,556	\$ 333,342
Distributed earnings allocated to common stock	\$ 55,820	\$ 47,740	\$ 151,963	\$ 139,224
Undistributed earnings allocated to common stock	110,769	57,635	227,593	194,118
Net earnings allocated to common stock	\$ 166,589	\$ 105,375	\$ 379,556	\$ 333,342
Weighted-average shares outstanding for basic earnings per common share	64,157,662	63,652,020	64,107,621	63,522,884
Dilutive effect of stock compensation	343,750	444,636	369,268	489,219
Weighted-average shares outstanding for diluted earnings per common share	64,501,412	64,096,656	64,476,889	64,012,103

Note 12 - Defined Benefit Plans

The components of the combined net periodic expense (benefit) for our defined benefit pension plans are presented in the table below.

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
Expected return on plan assets, net of expenses	\$ (3,492)	\$ (3,210)	\$ (10,475)	\$ (9,630)
Interest cost on projected benefit obligation	1,005	835	3,013	2,506
Net amortization and deferral	741	1,529	2,223	4,587
Net periodic expense (benefit)	\$ (1,746)	\$ (846)	\$ (5,239)	\$ (2,537)

Our non-qualified defined benefit pension plan is not funded. No contributions to the qualified defined benefit pension plan were made during the nine months ended September 30, 2022. We do not expect to make any contributions to the qualified defined benefit plan during the remainder of 2022.

Note 13 - Income Taxes

Income tax expense was as follows:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
Current income tax expense (benefit)	\$ 28,684	\$ 13,849	\$ 64,389	\$ 31,639
Deferred income tax expense (benefit)	(974)	(516)	(3,378)	4,672
Income tax expense, as reported	\$ 27,710	\$ 13,333	\$ 61,011	\$ 36,311
Effective tax rate	14.0 %	11.0 %	13.6 %	9.6 %

We had a net deferred tax asset totaling \$420.9 million at September 30, 2022 and a net deferred tax liability totaling \$81.2 million at December 31, 2021. No valuation allowance for deferred tax assets was recorded at September 30, 2022 as management believes it is more likely than not that all of the deferred tax assets will be realized against deferred tax liabilities and projected future taxable income.

The effective income tax rates differed from the U.S. statutory federal income tax rates of 21% during the comparable periods primarily due to the effect of tax-exempt income from loans, securities and life insurance policies and the income tax effects associated with stock-based compensation. There were no unrecognized tax benefits during any of the reported periods. Interest and/or penalties related to income taxes are reported as a component of income tax expense. Such amounts were not significant during the reported periods.

We file income tax returns in the U.S. federal jurisdiction. We are no longer subject to U.S. federal income tax examinations by tax authorities for years before 2018.

Note 14 - Other Comprehensive Income (Loss)

The before and after tax amounts allocated to each component of other comprehensive income (loss) are presented in the following table. Reclassification adjustments related to securities available for sale are included in net gain (loss) on securities transactions in the accompanying consolidated statements of income. Reclassification adjustments related to defined-benefit post-retirement benefit plans are included in the computation of net periodic pension expense (see Note 12 – Defined Benefit Plans).

	Three Months Ended September 30, 2022			Three Months Ended September 30, 2021		
	Before Tax Amount	Tax Expense, (Benefit)	Net of Tax Amount	Before Tax Amount	Tax Expense, (Benefit)	Net of Tax Amount
Securities available for sale and transferred securities:						
Change in net unrealized gain/loss during the period	\$ (829,324)	\$ (174,158)	\$ (655,166)	\$ (80,668)	\$ (16,941)	\$ (63,727)
Change in net unrealized gain on securities transferred to held to maturity	(174)	(36)	(138)	(237)	(49)	(188)
Reclassification adjustment for net (gains) losses included in net income	—	—	—	—	—	—
Total securities available for sale and transferred securities	(829,498)	(174,194)	(655,304)	(80,905)	(16,990)	(63,915)
Defined-benefit post-retirement benefit plans:						
Reclassification adjustment for net amortization of actuarial gain/loss included in net income as a component of net periodic cost (benefit)	741	156	585	1,529	321	1,208
Total defined-benefit post-retirement benefit plans	741	156	585	1,529	321	1,208
Total other comprehensive income (loss)	<u>\$ (828,757)</u>	<u>\$ (174,038)</u>	<u>\$ (654,719)</u>	<u>\$ (79,376)</u>	<u>\$ (16,669)</u>	<u>\$ (62,707)</u>
	Nine Months Ended September 30, 2022			Nine Months Ended September 30, 2021		
	Before Tax Amount	Tax Expense, (Benefit)	Net of Tax Amount	Before Tax Amount	Tax Expense, (Benefit)	Net of Tax Amount
Securities available for sale and transferred securities:						
Change in net unrealized gain/loss during the period	\$ (2,376,642)	\$ (499,095)	\$ (1,877,547)	\$ (209,779)	\$ (44,054)	\$ (165,725)
Change in net unrealized gain on securities transferred to held to maturity	(572)	(120)	(452)	(741)	(155)	(586)
Reclassification adjustment for net (gains) losses included in net income	—	—	—	—	—	—
Total securities available for sale and transferred securities	(2,377,214)	(499,215)	(1,877,999)	(210,520)	(44,209)	(166,311)
Defined-benefit post-retirement benefit plans:						
Reclassification adjustment for net amortization of actuarial gain/loss included in net income as a component of net periodic expense (benefit)	2,223	467	1,756	4,587	963	3,624
Total defined-benefit post-retirement benefit plans	2,223	467	1,756	4,587	963	3,624
Total other comprehensive income (loss)	<u>\$ (2,374,991)</u>	<u>\$ (498,748)</u>	<u>\$ (1,876,243)</u>	<u>\$ (205,933)</u>	<u>\$ (43,246)</u>	<u>\$ (162,687)</u>

Activity in accumulated other comprehensive income (loss), net of tax, was as follows:

	Securities Available For Sale	Defined Benefit Plans	Accumulated Other Comprehensive Income
Balance January 1, 2022	\$ 380,209	\$ (32,891)	\$ 347,318
Other comprehensive income (loss) before reclassifications	(1,877,999)	—	(1,877,999)
Reclassification of amounts included in net income	—	1,756	1,756
Net other comprehensive income (loss) during period	(1,877,999)	1,756	(1,876,243)
Balance at September 30, 2022	<u>\$ (1,497,790)</u>	<u>\$ (31,135)</u>	<u>\$ (1,528,925)</u>
Balance January 1, 2021	\$ 563,801	\$ (50,831)	\$ 512,970
Other comprehensive income (loss) before reclassifications	(166,311)	—	(166,311)
Reclassification of amounts included in net income	—	3,624	3,624
Net other comprehensive income (loss) during period	(166,311)	3,624	(162,687)
Balance at September 30, 2021	<u>\$ 397,490</u>	<u>\$ (47,207)</u>	<u>\$ 350,283</u>

Note 15 – Operating Segments

We are managed under a matrix organizational structure whereby our two primary operating segments, Banking and Frost Wealth Advisors, overlap a regional reporting structure. See our 2021 Form 10-K for additional information regarding our operating segments. Summarized operating results by segment were as follows:

	Banking	Frost Wealth Advisors	Non-Banks	Consolidated
Three months ended:				
September 30, 2022				
Net interest income (expense)	\$ 356,513	\$ 1,357	\$ (2,323)	\$ 355,547
Credit loss expense	(1)	1	—	—
Non-interest income	55,994	44,263	(436)	99,821
Non-interest expense	223,193	33,530	1,175	257,898
Income (loss) before income taxes	189,315	12,089	(3,934)	197,470
Income tax expense (benefit)	26,520	2,539	(1,349)	27,710
Net income (loss)	162,795	9,550	(2,585)	169,760
Preferred stock dividends	—	—	1,668	1,668
Net income (loss) available to common shareholders	\$ 162,795	\$ 9,550	\$ (4,253)	\$ 168,092
Revenues from (expenses to) external customers	\$ 412,507	\$ 45,620	\$ (2,759)	\$ 455,368
September 30, 2021				
Net interest income (expense)	\$ 247,381	\$ 536	\$ (1,795)	\$ 246,122
Credit loss expense (benefit)	(6)	6	—	—
Non-interest income	51,279	42,369	(459)	93,189
Non-interest expense	185,891	31,086	1,026	218,003
Income (loss) before income taxes	112,775	11,813	(3,280)	121,308
Income tax expense (benefit)	12,029	2,481	(1,177)	13,333
Net income (loss)	100,746	9,332	(2,103)	107,975
Preferred stock dividends	—	—	1,668	1,668
Net income (loss) available to common shareholders	\$ 100,746	\$ 9,332	\$ (3,771)	\$ 106,307
Revenues from (expenses to) external customers	\$ 298,660	\$ 42,905	\$ (2,254)	\$ 339,311
Nine months ended:				
September 30, 2022				
Net interest income (expense)	\$ 895,818	\$ 3,015	\$ (6,007)	\$ 892,826
Credit loss expense (benefit)	(1)	1	—	—
Non-interest income	170,097	130,546	(1,505)	299,138
Non-interest expense	640,775	97,598	4,604	742,977
Income (loss) before income taxes	425,141	35,962	(12,116)	448,987
Income tax expense (benefit)	57,355	7,552	(3,896)	61,011
Net income (loss)	367,786	28,410	(8,220)	387,976
Preferred stock dividends	—	—	5,006	5,006
Net income (loss) available to common shareholders	\$ 367,786	\$ 28,410	\$ (13,226)	\$ 382,970
Revenues from (expenses to) external customers	\$ 1,065,915	\$ 133,561	\$ (7,512)	\$ 1,191,964
September 30, 2021				
Net interest income (expense)	\$ 748,036	\$ 1,530	\$ (5,407)	\$ 744,159
Credit loss expense	57	6	—	63
Non-interest income	154,003	124,512	(843)	277,672
Non-interest expense	548,151	91,037	4,211	643,399
Income (loss) before income taxes	353,831	34,999	(10,461)	378,369
Income tax expense (benefit)	32,811	7,350	(3,850)	36,311
Net income (loss)	321,020	27,649	(6,611)	342,058
Preferred stock dividends	—	—	5,488	5,488
Net income (loss) available to common shareholders	\$ 321,020	\$ 27,649	\$ (12,099)	\$ 336,570
Revenues from (expenses to) external customers	\$ 902,039	\$ 126,042	\$ (6,250)	\$ 1,021,831

Note 16 – Fair Value Measurements

The fair value of an asset or liability is the price that would be received to sell that asset or paid to transfer that liability in an orderly transaction occurring in the principal market (or most advantageous market in the absence of a principal market) for such asset or liability. In estimating fair value, we utilize valuation techniques that are consistent with the market approach, the income approach and/or the cost approach. Such valuation techniques are consistently applied. Inputs to valuation techniques include the assumptions that market participants would use in pricing an asset or liability. ASC Topic 820 establishes a three-level fair value hierarchy for valuation inputs that gives the highest priority to quoted prices in active markets for identical assets or liabilities and the lowest priority to unobservable inputs. See our 2021 Form 10-K for additional information regarding the fair value hierarchy and a description of our valuation techniques.

Financial Assets and Financial Liabilities. The tables below summarize financial assets and financial liabilities measured at fair value on a recurring basis as of September 30, 2022 and December 31, 2021, segregated by the level of the valuation inputs within the fair value hierarchy of ASC Topic 820 utilized to measure fair value.

	Level 1 Inputs	Level 2 Inputs	Level 3 Inputs	Total Fair Value
September 30, 2022				
Securities available for sale:				
U.S. Treasury	\$ 5,022,617	\$ —	\$ —	\$ 5,022,617
Residential mortgage-backed securities	—	5,698,809	—	5,698,809
States and political subdivisions	—	6,635,298	—	6,635,298
Other	—	42,383	—	42,383
Trading account securities:				
U.S. Treasury	25,008	—	—	25,008
Derivative assets:				
Interest rate swaps, caps and floors	—	78,898	—	78,898
Commodity swaps and options	—	145,933	—	145,933
Foreign currency forward contracts	252	—	—	252
Derivative liabilities:				
Interest rate swaps, caps and floors	—	99,093	—	99,093
Commodity swaps and options	—	144,385	—	144,385
Foreign currency forward contracts	252	—	—	252
December 31, 2021				
Securities available for sale:				
U.S. Treasury	\$ 2,179,433	\$ —	\$ —	\$ 2,179,433
Residential mortgage-backed securities	—	4,066,265	—	4,066,265
States and political subdivisions	—	7,636,571	—	7,636,571
Other	—	42,359	—	42,359
Trading account securities:				
U.S. Treasury	24,237	—	—	24,237
States and political subdivisions	—	925	—	925
Derivative assets:				
Interest rate swaps, caps and floors	—	44,310	—	44,310
Commodity swaps and options	—	114,757	—	114,757
Foreign currency forward contracts	33	—	—	33
Derivative liabilities:				
Interest rate swaps, caps and floors	—	25,261	—	25,261
Commodity swaps and options	—	113,261	—	113,261
Foreign currency forward contracts	55	—	—	55

Certain financial assets and financial liabilities are measured at fair value on a nonrecurring basis; that is, the instruments are not measured at fair value on an ongoing basis but are subject to fair value adjustments in certain circumstances. Financial assets measured at fair value on a non-recurring basis during the reported periods include certain collateral dependent loans reported at the fair value of the underlying collateral if repayment is expected solely from the collateral.

The following table presents collateral dependent loans that were remeasured and reported at fair value through a specific allocation of the allowance for credit losses on loans based upon the fair value of the underlying collateral during the reported periods.

	Nine Months Ended September 30, 2022		Nine Months Ended September 30, 2021	
	Level 2	Level 3	Level 2	Level 3
Carrying value before allocations	\$ 7,999	\$ 2,087	\$ 3,329	\$ 15,274
Specific (allocations) reversals of prior allocations	(1,742)	4,881	(336)	(4,791)
Fair value	\$ 6,257	\$ 6,968	\$ 2,993	\$ 10,483

Non-Financial Assets and Non-Financial Liabilities. We do not have any non-financial assets or non-financial liabilities measured at fair value on a recurring basis. From time to time, non-financial assets measured at fair value on a non-recurring basis may include certain foreclosed assets which, upon initial recognition, were remeasured and reported at fair value through a charge-off to the allowance for loan losses and certain foreclosed assets which, subsequent to their initial recognition, were remeasured at fair value through a write-down included in other non-interest expense. There were no such fair value measurements during the reported periods.

Financial Instruments Reported at Amortized Cost. The estimated fair values of financial instruments that are reported at amortized cost in our consolidated balance sheets, segregated by the level of the valuation inputs within the fair value hierarchy utilized to measure fair value, were as follows:

	September 30, 2022		December 31, 2021	
	Carrying Amount	Estimated Fair Value	Carrying Amount	Estimated Fair Value
Financial assets:				
Level 2 inputs:				
Cash and cash equivalents	\$ 13,632,698	\$ 13,632,698	\$ 16,583,000	\$ 16,583,000
Securities held to maturity	2,174,084	1,917,287	1,749,179	1,809,143
Cash surrender value of life insurance policies	190,368	190,368	190,139	190,139
Accrued interest receivable	169,540	169,540	179,111	179,111
Level 3 inputs:				
Loans, net	16,716,314	16,163,170	16,087,731	16,079,454
Financial liabilities:				
Level 2 inputs:				
Deposits	46,560,186	46,538,352	42,695,696	41,343,426
Federal funds purchased	26,200	26,200	25,925	25,925
Repurchase agreements	2,082,739	2,082,739	2,740,799	2,740,799
Junior subordinated deferrable interest debentures	123,055	123,712	123,011	123,712
Subordinated notes	99,295	96,926	99,178	111,430
Accrued interest payable	9,545	9,545	3,026	3,026

Under ASC Topic 825, entities may choose to measure eligible financial instruments at fair value at specified election dates. The fair value measurement option (i) may be applied instrument by instrument, with certain exceptions, (ii) is generally irrevocable and (iii) is applied only to entire instruments and not to portions of instruments. Unrealized gains and losses on items for which the fair value measurement option has been elected must be reported in earnings at each subsequent reporting date. During the reported periods, we had no financial instruments measured at fair value under the fair value measurement option.

Note 17 - Accounting Standards Updates

Information about certain recently issued accounting standards updates is presented below. Also refer to Note 20 - Accounting Standards Updates in our 2021 Form 10-K for additional information related to previously issued accounting standards updates.

ASU 2022-01, “Derivatives and Hedging (Topic 815): Fair Value Hedging - Portfolio Layer Method.” Under prior guidance, entities can apply the last-of-layer hedging method to hedge the exposure of a closed portfolio of prepayable financial assets to fair value changes due to changes in interest rates for a portion of the portfolio that is not expected to be affected by prepayments, defaults, and other events affecting the timing and amount of cash flows. ASU 2022-01 expands the last-of-layer method, which permits only one hedge layer, to allow multiple hedged layers of a single closed portfolio. To reflect that expansion, the last-of-layer method is renamed the portfolio layer method. ASU 2022-01 also (i) expands the scope of the portfolio layer method to include non-prepayable financial assets, (ii) specifies eligible hedging instruments in a single-layer hedge, (iii) provides additional guidance on the accounting for and disclosure of hedge basis adjustments under the portfolio layer method and (iv) specifies how hedge basis adjustments should be considered when determining credit losses for the assets included in the closed portfolio. ASU 2022-01 will be effective for us on January 1, 2023 though early adoption is permitted. The adoption of ASU 2022-01 is not expected to have a significant impact on our financial statements.

ASU 2022-02, “Financial Instruments - Credit Losses (Topic 326): Troubled Debt Restructurings and Vintage Disclosures.” ASU 2022-02 eliminates the accounting guidance for troubled debt restructurings in Accounting Standards Codification (“ASC”) Subtopic 310-40, Receivables - Troubled Debt Restructurings by Creditors, while enhancing disclosure requirements for certain loan refinancings and restructurings by creditors when a borrower is experiencing financial difficulty. Additionally, ASU 2022-02 requires entities to disclose current-period gross write-offs by year of origination for financing receivables and net investments in leases within the scope of ASC Subtopic 3126-20, Financial Instruments - Credit Losses - Measured at Amortized Cost. ASU 2022-02 will be effective for us on January 1, 2023 though early adoption is permitted. The adoption of ASU 2022-02 is not expected to have a significant impact on our financial statements.

ASU 2022-03, “Fair Value Measurement (Topic 820): Fair Value Measurement of Equity Securities Subject to Contractual Sale Restrictions.” ASU 2022-03 clarifies that a contractual restriction on the sale of an equity security is not considered part of the unit of account of the equity security and, therefore, is not considered in measuring fair value. ASU 2022-03 also clarifies that an entity cannot, as a separate unit of account, recognize and measure a contractual sale restriction and requires certain new disclosures for equity securities subject to contractual sale restrictions. ASU 2022-03 will be effective for us on January 1, 2024 though early adoption is permitted. The adoption of ASU 2022-03 is not expected to have a significant impact on our financial statements.

Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations

Financial Review

Cullen/Frost Bankers, Inc.

The following discussion should be read in conjunction with our consolidated financial statements, and notes thereto, for the year ended December 31, 2021, and the other information included in the 2021 Form 10-K. Operating results for the three and nine months ended September 30, 2022 are not necessarily indicative of the results for the year ending December 31, 2022 or any future period.

Dollar amounts in tables are stated in thousands, except for per share amounts.

Forward-Looking Statements and Factors that Could Affect Future Results

Certain statements contained in this Quarterly Report on Form 10-Q that are not statements of historical fact constitute forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995 (the "Act"). These may include statements regarding the potential effects of the COVID-19 pandemic on our business, financial condition, liquidity and results of operations, notwithstanding that such statements are not specifically identified as such. In addition, certain statements may be contained in our future filings with the SEC, in press releases, and in oral and written statements made by us or with our approval that are not statements of historical fact and constitute forward-looking statements within the meaning of the Act. Examples of forward-looking statements include, but are not limited to: (i) projections of revenues, expenses, income or loss, earnings or loss per share, the payment or nonpayment of dividends, capital structure and other financial items; (ii) statements of plans, objectives and expectations of Cullen/Frost or its management or Board of Directors, including those relating to products, services or operations; (iii) statements of future economic performance; and (iv) statements of assumptions underlying such statements. Words such as "believes", "anticipates", "expects", "intends", "targeted", "continue", "remain", "will", "should", "may" and other similar expressions are intended to identify forward-looking statements but are not the exclusive means of identifying such statements.

Forward-looking statements involve risks and uncertainties that may cause actual results to differ materially from those in such statements. Factors that could cause actual results to differ from those discussed in the forward-looking statements include, but are not limited to:

- The effects of and changes in trade and monetary and fiscal policies and laws, including the interest rate policies of the Federal Reserve Board.
- Inflation, interest rate, securities market and monetary fluctuations.
- Local, regional, national and international economic conditions and the impact they may have on us and our customers and our assessment of that impact.
- Changes in the financial performance and/or condition of our borrowers.
- Changes in the mix of loan geographies, sectors and types or the level of non-performing assets and charge-offs.
- Changes in estimates of future credit loss reserve requirements based upon the periodic review thereof under relevant regulatory and accounting requirements.
- Changes in our liquidity position.
- Impairment of our goodwill or other intangible assets.
- The timely development and acceptance of new products and services and perceived overall value of these products and services by users.
- Changes in consumer spending, borrowing and saving habits.
- Greater than expected costs or difficulties related to the integration of new products and lines of business.
- Technological changes.
- The cost and effects of cyber incidents or other failures, interruptions or security breaches of our systems or those of our customers or third-party providers.
- Acquisitions and integration of acquired businesses.
- Changes in the reliability of our vendors, internal control systems or information systems.
- Our ability to increase market share and control expenses.
- Our ability to attract and retain qualified employees.
- Changes in our organization, compensation and benefit plans.
- The soundness of other financial institutions.
- Volatility and disruption in national and international financial and commodity markets.
- Changes in the competitive environment in our markets and among banking organizations and other financial service providers.
- Government intervention in the U.S. financial system.
- Political instability.

- Acts of God or of war or terrorism.
- The potential impact of climate change.
- The impact of the COVID-19 pandemic and any other pandemic, epidemic or health-related crisis.
- The costs and effects of legal and regulatory developments, the resolution of legal proceedings or regulatory or other governmental inquiries, the results of regulatory examinations or reviews and the ability to obtain required regulatory approvals.
- The effect of changes in laws and regulations (including laws and regulations concerning taxes, banking, securities and insurance) and their application with which we and our subsidiaries must comply.
- The effect of changes in accounting policies and practices, as may be adopted by the regulatory agencies, as well as the Public Company Accounting Oversight Board, the Financial Accounting Standards Board and other accounting standard setters.
- Our success at managing the risks involved in the foregoing items.

In addition, financial markets and global supply chains may continue to be adversely affected by the current or anticipated impact of military conflict, including the current Russian invasion of Ukraine, terrorism or other geopolitical events.

Further, statements about the potential effects of the COVID-19 pandemic on our business, financial condition, liquidity and results of operations may constitute forward-looking statements and are subject to the risk that the actual effects may differ, possibly materially, from what is reflected in those forward-looking statements due to factors and future developments that are uncertain, unpredictable and in many cases beyond our control, including the scope and duration of the pandemic, actions taken by governmental authorities in response to the pandemic, and the direct and indirect impact of the pandemic on our customers, clients, third parties and us.

Forward-looking statements speak only as of the date on which such statements are made. We do not undertake any obligation to update any forward-looking statement to reflect events or circumstances after the date on which such statement is made, or to reflect the occurrence of unanticipated events.

COVID-19 Effects and Actions

Our business has been, and continues to be, impacted by the effects of the COVID-19 pandemic. There remains many uncertainties related to COVID-19 including, among other things, the ongoing impact to our customers, employees and vendors; the impact to the financial services and banking industry; and the impact to the economy as a whole as well as the effect of actions taken, or that may yet be taken, or inaction by governmental authorities to mitigate both the economic and health-related effects of COVID-19. Refer to our 2021 Form 10-K for further information regarding (i) the impact of the COVID-19 pandemic on our operations and our results thereof, as well as the impact on our financial position and (ii) legislative and regulatory actions taken related to the COVID-19 pandemic, particularly as they relate to the banking and financial services industry.

Application of Critical Accounting Policies and Accounting Estimates

We follow accounting and reporting policies that conform, in all material respects, to accounting principles generally accepted in the United States and to general practices within the financial services industry. The preparation of financial statements in conformity with accounting principles generally accepted in the United States requires management to make estimates and assumptions that affect the amounts reported in the financial statements and accompanying notes. While we base estimates on historical experience, current information and other factors deemed to be relevant, actual results could differ from those estimates.

We consider accounting estimates to be critical to reported financial results if (i) the accounting estimate requires management to make assumptions about matters that are highly uncertain and (ii) different estimates that management reasonably could have used for the accounting estimate in the current period, or changes in the accounting estimate that are reasonably likely to occur from period to period, could have a material impact on our financial statements.

Accounting policies related to the allowance for credit losses on financial instruments including loans and off-balance-sheet credit exposures are considered to be critical as these policies involve considerable subjective judgment and estimation by management. In the case of loans, the allowance for credit losses is a contra-asset valuation account, calculated in accordance with Accounting Standards Codification (“ASC”) Topic 326 (“ASC 326”) Financial Instruments - Credit Losses, that is deducted from the amortized cost basis of loans to present the net amount expected to be collected. In the case of off-balance-sheet credit exposures, the allowance for credit losses is a liability account, calculated in accordance with ASC 326, reported as a component of accrued interest payable and other liabilities in our consolidated balance sheets. The amount of each allowance account represents management's best estimate of current expected credit losses on these financial instruments considering available information, from internal and external sources, relevant to assessing exposure to credit loss over the contractual term

of the instrument. Relevant available information includes historical credit loss experience, current conditions and reasonable and supportable forecasts. While historical credit loss experience provides the basis for the estimation of expected credit losses, adjustments to historical loss information may be made for differences in current portfolio-specific risk characteristics, environmental conditions or other relevant factors. While management utilizes its best judgment and information available, the ultimate adequacy of our allowance accounts is dependent upon a variety of factors beyond our control, including the performance of our portfolios, the economy, changes in interest rates and the view of the regulatory authorities toward classification of assets. Refer to the 2021 Form 10-K for additional information regarding critical accounting policies.

Overview

A discussion of our results of operations is presented below. Certain reclassifications have been made to make prior periods comparable. Taxable-equivalent adjustments are the result of increasing income from tax-free loans and investments by an amount equal to the taxes that would be paid if the income were fully taxable based on a 21% federal tax rate, thus making tax-exempt yields comparable to taxable asset yields.

Results of Operations

Net income available to common shareholders totaled \$168.1 million, or \$2.59 per diluted common share, and \$383.0 million, or \$5.90 per diluted common share for the three and nine months ended September 30, 2022 compared to \$106.3 million, or \$1.65 per diluted common share, and \$336.6 million, or \$5.22 per diluted common share for the three and nine months ended September 30, 2021.

Selected data for the comparable periods was as follows:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
Taxable-equivalent net interest income	\$ 379,518	\$ 269,321	\$ 963,089	\$ 813,266
Taxable-equivalent adjustment	23,971	23,199	70,263	69,107
Net interest income	355,547	246,122	892,826	744,159
Credit loss expense	—	—	—	63
Net interest income after credit loss expense	355,547	246,122	892,826	744,096
Non-interest income	99,821	93,189	299,138	277,672
Non-interest expense	257,898	218,003	742,977	643,399
Income before income taxes	197,470	121,308	448,987	378,369
Income taxes	27,710	13,333	61,011	36,311
Net income	169,760	107,975	387,976	342,058
Preferred stock dividends	1,668	1,668	5,006	5,488
Net income available to common shareholders	\$ 168,092	\$ 106,307	\$ 382,970	\$ 336,570
Earnings per common share – basic	\$ 2.60	\$ 1.66	\$ 5.92	\$ 5.25
Earnings per common share – diluted	2.59	1.65	5.90	5.22
Dividends per common share	0.87	0.75	2.37	2.19
Return on average assets	1.27 %	0.90 %	1.00 %	1.00 %
Return on average common equity	20.13	9.87	14.19	10.72
Average shareholders' equity to average assets	6.60	9.44	7.32	9.65

Net income available to common shareholders increased \$61.8 million, or 58.1%, for the three months ended September 30, 2022 and increased \$46.4 million, or 13.8%, for the nine months ended September 30, 2022 compared to the same periods in 2021. The increase during the three months ended September 30, 2022 was primarily the result of a \$109.4 million increase in net interest income and a \$6.6 million increase in non-interest income partly offset by a \$39.9 million increase in non-interest expense and a \$14.4 million increase in income tax expense. The increase during the nine months ended September 30, 2022 was primarily the result of a \$148.7 million increase in net interest income and a \$21.5 million increase in non-interest income partly offset by a \$99.6 million increase in non-interest expense and a \$24.7 million increase in income tax expense. Details of the changes in the various components of net income are further discussed below.

Net Interest Income

Net interest income is the difference between interest income on earning assets, such as loans and securities, and interest expense on liabilities, such as deposits and borrowings, which are used to fund those assets. Net interest income is our largest source of revenue, representing 74.9% of total revenue during the first nine months of 2022. Net interest margin is the ratio of taxable-equivalent net interest income to average earning assets for the period. The level of interest rates and the volume and mix of earning assets and interest-bearing liabilities impact net interest income and net interest margin.

The Federal Reserve influences the general market rates of interest, including the deposit and loan rates offered by many financial institutions. As of September 30, 2022, approximately 42.2% of our loans had a fixed interest rate, while the remaining loans had floating interest rates that were primarily tied to the prime interest rate (approximately 28.4%) or the London Interbank Offered Rate (“LIBOR”) (approximately 13.7%). We discontinued originating LIBOR-based loans effective December 31, 2021 and have begun to negotiate loans using our preferred replacement index, the American Interbank Offered Rate (“AMERIBOR”), a benchmark developed by the American Financial Exchange, the Secured Overnight Financing Rate (“SOFR”) or a benchmark developed by Bloomberg Index Services (“BSBY”). As of September 30, 2022, approximately 15.7% of loans were tied to one of these indexes. For our currently outstanding LIBOR-based loans, the timing and manner in which each customer’s contract transitions from LIBOR to another rate will vary on a case-by-case basis. Our goal is to complete all transitions by the first quarter of 2023.

Select average market rates for the periods indicated are presented in the table below.

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
Federal funds target rate upper bound	2.37 %	0.25 %	1.21 %	0.25 %
Effective federal funds rate	2.18	0.09	1.03	0.08
Interest on reserve balances	2.25	0.15	1.10	0.12
Prime	5.37	3.25	4.21	3.25
1-Month LIBOR	2.47	0.09	1.24	0.10
3-Month LIBOR	3.00	0.13	1.68	0.16
AMERIBOR Term-30 ⁽¹⁾	2.29	0.10	1.13	0.11
AMERIBOR Term-90 ⁽¹⁾	2.89	0.13	1.62	0.16
1-Month Term SOFR ⁽²⁾	2.43	0.05	1.18	0.04
3-Month Term SOFR ⁽²⁾	2.82	0.05	1.49	0.04
Bloomberg 1-Month Short-Term Bank Yield Index	2.35	0.06	1.14	0.08
Bloomberg 3-Month Short-Term Bank Yield Index	2.89	0.10	1.60	0.13

(1) AMERIBOR Term-30 and AMERIBOR Term-90 are published by the American Financial Exchange.

(2) 1-Month Term SOFR and 3-Month Term SOFR market data are the property of Chicago Mercantile Exchange, Inc. or its licensors as applicable. All rights reserved, or otherwise licensed by Chicago Mercantile Exchange, Inc.

In September 2022, the Federal Reserve released projections whereby the midpoint of the projected appropriate target range for the federal funds rate would rise to 4.4% by the end of 2022 and to 4.6% by the end of 2023. While there can be no such assurance that any increases in the federal funds rate will occur, these projections imply up to a 125 basis point increase in the federal funds rate during the remainder of 2022, followed by an additional 25 basis point increase in 2023.

We are primarily funded by core deposits, with non-interest-bearing demand deposits historically being a significant source of funds. This lower-cost funding base is expected to have a positive impact on our net interest income and net interest margin in a rising interest rate environment. See Item 3. Quantitative and Qualitative Disclosures About Market Risk elsewhere in this report for information about our sensitivity to interest rates. Further analysis of the components of our net interest margin is presented below.

The following tables present an analysis of net interest income and net interest spread for the periods indicated, including average outstanding balances for each major category of interest-earning assets and interest-bearing liabilities, the interest earned or paid on such amounts, and the average rate earned or paid on such assets or liabilities, respectively. The tables also set forth the net interest margin on average total interest-earning assets for the same periods. For these computations: (i) average balances are presented on a daily average basis, (ii) information is shown on a taxable-equivalent basis assuming a 21% tax rate, (iii) average loans include loans on non-accrual status, and (iv) average securities include unrealized gains and losses on securities available for sale, while yields are based on average amortized cost.

	Quarter To Date September 30, 2022			Quarter To Date September 30, 2021		
	Average Balance	Interest Income/ Expense	Yield/ Cost	Average Balance	Interest Income/ Expense	Yield/ Cost
Assets:						
Interest-bearing deposits	\$ 12,776,193	\$ 74,257	2.27 %	\$ 15,278,296	\$ 5,830	0.15 %
Federal funds sold	50,656	316	2.44	1,676	2	0.48
Resell agreements	10,471	64	2.39	7,907	6	0.29
Securities:						
Taxable	11,486,105	68,311	2.20	4,147,511	20,736	2.03
Tax-exempt	7,915,790	81,831	4.09	8,355,422	78,968	4.04
Total securities	19,401,895	150,142	2.94	12,502,933	99,704	3.35
Loans, net of unearned discounts	16,822,933	207,522	4.89	16,189,334	169,892	4.16
Total Earning Assets and Average Rate Earned	49,062,148	432,301	3.43	43,980,146	275,434	2.53
Cash and due from banks	633,905			569,715		
Allowance for credit losses on loans and securities	(238,623)			(255,214)		
Premises and equipment, net	1,061,315			1,029,242		
Accrued interest and other assets	1,864,046			1,450,373		
Total Assets	<u>\$ 52,382,791</u>			<u>\$ 46,774,262</u>		
Liabilities:						
Non-interest-bearing demand deposits	18,511,055			16,998,730		
Interest-bearing deposits:						
Savings and interest checking	12,235,537	2,159	0.07	10,909,851	322	0.01
Money market deposit accounts	13,465,863	36,568	1.08	10,085,955	2,663	0.10
Time accounts	1,590,561	3,955	0.99	1,121,266	692	0.24
Total interest-bearing deposits	27,291,961	42,682	0.62	22,117,072	3,677	0.07
Total deposits	45,803,016		0.37	39,115,802		0.04
Federal funds purchased	41,718	249	2.33	27,002	9	0.13
Repurchase agreements	1,959,630	7,529	1.50	2,188,171	632	0.11
Junior subordinated deferrable interest debentures	123,049	1,159	3.77	136,395	631	1.85
Subordinated notes	99,281	1,164	4.69	99,125	1,164	4.70
Total Interest-Bearing Funds and Average Rate Paid	29,515,639	52,783	0.71	24,567,765	6,113	0.10
Accrued interest and other liabilities	897,094			790,289		
Total Liabilities	48,923,788			42,356,784		
Shareholders' Equity	3,459,003			4,417,478		
Total Liabilities and Shareholders' Equity	<u>\$ 52,382,791</u>			<u>\$ 46,774,262</u>		
Net interest income		<u>\$ 379,518</u>			<u>\$ 269,321</u>	
Net interest spread			<u>2.72 %</u>			<u>2.43 %</u>
Net interest income to total average earning assets			<u>3.01 %</u>			<u>2.47 %</u>

	Year To Date September 30, 2022			Year To Date September 30, 2021		
	Average Balance	Interest Income/ Expense	Yield/ Cost	Average Balance	Interest Income/ Expense	Yield/ Cost
Assets:						
Interest-bearing deposits	\$ 13,190,883	\$ 106,971	1.07 %	\$ 12,849,827	\$ 11,877	0.12 %
Federal funds sold	32,042	428	1.76	9,331	13	0.18
Resell agreements	6,461	78	1.59	6,169	11	0.24
Securities:						
Taxable	10,280,574	167,734	2.06	4,111,574	61,366	2.03
Tax-exempt	7,960,457	239,730	4.05	8,237,397	235,344	4.07
Total securities	18,241,031	407,464	2.90	12,348,971	296,710	3.37
Loans, net of unearned discounts	16,629,559	526,515	4.23	17,034,405	522,376	4.10
Total Earning Assets and Average Rate Earned	48,099,976	1,041,456	2.86	42,248,703	830,987	2.67
Cash and due from banks	643,654			543,514		
Allowance for credit losses on loans and securities	(244,763)			(261,568)		
Premises and equipment, net	1,053,887			1,038,467		
Accrued interest and other assets	1,723,257			1,434,859		
Total Assets	<u>\$ 51,276,011</u>			<u>\$ 45,003,975</u>		
Liabilities:						
Non-interest-bearing demand deposits	18,277,657			16,261,999		
Interest-bearing deposits:						
Savings and interest checking	12,176,393	3,775	0.04	10,506,015	1,057	0.01
Money market deposit accounts	12,650,089	51,334	0.54	9,710,072	6,538	0.09
Time accounts	1,403,238	7,078	0.67	1,134,065	3,098	0.37
Total interest-bearing deposits	26,229,720	62,187	0.32	21,350,152	10,693	0.07
Total deposits	44,507,377		0.19	37,612,151		0.04
Federal funds purchased	35,053	336	1.26	33,937	24	0.09
Repurchase agreements	1,917,622	9,837	0.68	2,030,266	1,597	0.10
Junior subordinated deferrable interest debentures	123,035	2,515	2.70	136,380	1,915	1.87
Subordinated notes	99,242	3,492	4.69	99,085	3,492	4.70
Total Interest-Bearing Funds and Average Rate Paid	28,404,672	78,367	0.37	23,649,820	17,721	0.10
Accrued interest and other liabilities	840,489			747,473		
Total Liabilities	47,522,818			40,659,292		
Shareholders' Equity	3,753,193			4,344,683		
Total Liabilities and Shareholders' Equity	<u>\$ 51,276,011</u>			<u>\$ 45,003,975</u>		
Net interest income		<u>\$ 963,089</u>			<u>\$ 813,266</u>	
Net interest spread			<u>2.49 %</u>			<u>2.57 %</u>
Net interest income to total average earning assets			<u>2.64 %</u>			<u>2.61 %</u>

The following table presents the changes in taxable-equivalent net interest income and identifies the changes due to differences in the average volume of earning assets and interest-bearing liabilities and the changes due to changes in the average interest rate on those assets and liabilities. The changes in net interest income due to changes in both average volume and average interest rate have been allocated to the average volume change or the average interest rate change in proportion to the absolute amounts of the change in each.

Three Months Ended September 30, 2022 vs. September 30, 2021			
	Increase (Decrease) Due to Change in		Total
	Rate	Volume	
Interest-bearing deposits	\$ 69,498	\$ (1,071)	\$ 68,427
Federal funds sold	37	277	314
Resell agreements	55	3	58
Securities:			
Taxable	1,875	45,700	47,575
Tax-exempt	988	1,875	2,863
Loans, net of unearned discounts	30,768	6,862	37,630
Total earning assets	103,221	53,646	156,867
Savings and interest checking	1,801	36	1,837
Money market deposit accounts	32,784	1,121	33,905
Time accounts	2,877	386	3,263
Federal funds purchased	232	8	240
Repurchase agreements	6,965	(68)	6,897
Junior subordinated deferrable interest debentures	596	(68)	528
Subordinated notes	(2)	2	—
Total interest-bearing liabilities	45,253	1,417	46,670
Net change	\$ 57,968	\$ 52,229	\$ 110,197

Nine Months Ended September 30, 2022 vs. September 30, 2021			
	Increase (Decrease) Due to Change in		Total
	Rate	Volume	
Interest-bearing deposits	\$ 94,776	\$ 318	\$ 95,094
Federal funds sold	324	91	415
Resell agreements	66	1	67
Securities:			
Taxable	920	105,448	106,368
Tax-exempt	(1,188)	5,574	4,386
Loans, net of unearned discounts	16,597	(12,458)	4,139
Total earning assets	111,495	98,974	210,469
Savings and interest checking	2,581	137	2,718
Money market deposit accounts	42,238	2,558	44,796
Time accounts	3,079	901	3,980
Federal funds purchased	311	1	312
Repurchase agreements	8,329	(89)	8,240
Junior subordinated deferrable interest debentures	798	(198)	600
Subordinated notes	(6)	6	—
Total interest-bearing liabilities	57,330	3,316	60,646
Net change	\$ 54,165	\$ 95,658	\$ 149,823

Taxable-equivalent net interest income for the three months ended September 30, 2022 increased \$110.2 million, or 40.9%, while taxable-equivalent net interest income for the nine months ended September 30, 2022 increased \$149.8 million, or 18.4%, compared to the same periods in 2021. The increase in taxable-equivalent net interest income during the three months ended September 30, 2022 was primarily related to an increase in the average yield on interest-bearing deposits (primarily amounts held in an interest-bearing account at the Federal Reserve); an increase in the average volume of taxable securities; increases in the average yield on and, to a lesser extent, the average volume of loans; and increases in the average volume of and the average taxable-equivalent yield on tax-exempt securities. The impact of these items was partly offset by increases in the average cost

of interest-bearing deposit accounts (primarily money market deposit accounts) and an increase in the average cost of repurchase agreements, among other things.

The increase in taxable-equivalent net interest income during the nine months ended September 30, 2022 was primarily related to an increase in the average volume of taxable securities; an increase in the average yield on interest-bearing deposits (primarily amounts held in an interest-bearing account at the Federal Reserve); an increase in the average yield on loans; and an increase in the average volume of tax-exempt securities. The impact of these items was partly offset by increases in the average cost and the average volume of interest-bearing deposit accounts (primarily money market deposit accounts), an increase in the average cost of repurchase agreements and a decrease in the average volume of loans.

As a result of the aforementioned fluctuations, the taxable-equivalent net interest margin increased 54 basis points from 2.47% during the three months ended September 30, 2021 to 3.01% during the three months ended September 30, 2022 while the taxable-equivalent net interest margin increased 3 basis points from 2.61% during the nine months ended September 30, 2021 to 2.64% during the nine months ended September 30, 2022.

The average volume of interest-earning assets for the three months ended September 30, 2022 increased \$5.1 billion while the average volume of interest-earning assets for the nine months ended September 30, 2022 increased \$5.9 billion compared to the same periods in 2021. The increase in the average volume of interest-earning assets during the three months ended September 30, 2022 primarily related to a \$7.3 billion increase in average taxable securities and a \$633.6 million increase in average loans (which was impacted by a \$1.3 billion decrease in average PPP loans, as further discussed below), partly offset by a \$2.5 billion decrease in average interest-bearing deposits (primarily amounts held in an interest-bearing account at the Federal Reserve) and a \$439.6 million decrease in average tax-exempt securities. The increase in the average volume of interest-earning assets during the nine months ended September 30, 2022 primarily related to a \$6.2 billion increase in average taxable securities and a \$341.1 million increase in average interest-bearing deposits (primarily amounts held in an interest-bearing account at the Federal Reserve) partly offset by a \$404.8 million decrease in average loans (which was primarily impacted by a \$2.1 billion decrease in average PPP loans, as further discussed below) and a \$276.9 million decrease in average tax-exempt securities.

The average taxable-equivalent yield on interest-earning assets increased 90 basis points from 2.53% during the three months ended September 30, 2021 to 3.43% during the three months ended September 30, 2022 while the average taxable-equivalent yield on interest-earning assets increased 19 basis points from 2.67% during the nine months ended September 30, 2021 to 2.86% during the nine months ended September 30, 2022. The average taxable-equivalent yield on interest-earning assets during 2022 was impacted by the aforementioned changes in market interest rates and changes in the volume and relative mix of interest-earning assets.

The average taxable-equivalent yield on loans increased 73 basis points from 4.16% during the three months ended September 30, 2021 to 4.89% during the three months ended September 30, 2022 while the average taxable-equivalent yield on loans increased 13 basis points from 4.10% during the nine months ended September 30, 2021 to 4.23% during the nine months ended September 30, 2022. The average taxable-equivalent yields on loans during three and nine months ended September 30, 2022 were positively impacted by recent increases in market interest rates. The average taxable-equivalent yield on loans during the three and nine months ended September 30, 2021 was positively impacted by a higher average proportion of higher-yielding PPP loans to total loans compared to the three and nine months ended September 30, 2022. The average volume of loans for the three months ended September 30, 2022 increased \$633.6 million, or 3.9%, while the average volume of loans for the nine months ended September 30, 2022 decreased \$404.8 million, or 2.4%, compared to the same periods in 2021. The average volumes of loans during the three and nine months ended September 30, 2022 were impacted by decreases in the average volumes of PPP loans. Excluding PPP loans, average loans would have increased \$1.9 billion, or 13.0%, and \$1.7 billion, or 11.5%, during the three and nine months ended September 30, 2022, respectively, compared to the same periods in 2021. Loans made up approximately 34.3% and 34.6% of average interest-earning assets during the three and nine months ended September 30, 2022, respectively, compared to 36.8% and 40.3% during the same respective periods in 2021.

During the nine months ended September 30, 2022, we recognized approximately \$2.6 million in PPP loan related deferred processing fees (net of amortization of related deferred origination costs) as a yield adjustment and this amount is included in interest income on loans. Such amounts were not significant during the three months ended September 30, 2022. During the three and nine months ended September 30, 2021, we recognized approximately \$26.5 million and \$88.9 million, respectively, in PPP loan related deferred processing fees (net of amortization of related deferred origination costs). As a result of the inclusion of these net fees in interest income, the average yields on PPP loans was 1.00% and 3.00% during the three and nine months ended September 30, 2022, and 8.72% and 6.23% during the three and nine months ended September 30, 2021, compared to the stated interest rate of 1.0% on these loans.

The average taxable-equivalent yield on securities was 2.94% and 2.90% during the three and nine months ended September 30, 2022, respectively, decreasing 41 basis points from 3.35% during the three months ended September 30, 2021 and decreasing 47 basis points from 3.37% during the nine months ended September 30, 2021. The average yield on taxable securities was 2.20% during the three months ended September 30, 2022 increasing 17 basis points from 2.03% during the same period in 2021 while the average yield on taxable securities was 2.06% during the nine months ended September 30, 2022 increasing 3 basis points from 2.03% during the same period in 2021. The average taxable-equivalent yield on tax-exempt securities was 4.09% during the three months ended September 30, 2022 increasing 5 basis points from 4.04% during the same period in 2021 while the average taxable-equivalent yield on tax-exempt securities was 4.05% during the nine months ended September 30, 2022, decreasing 2 basis points from 4.07% during the same period in 2021.

Tax exempt securities made up approximately 40.8% and 43.6% of total average securities during the three and nine months ended September 30, 2022, respectively, compared to 66.8% and 66.7% during the same periods in 2021. The average volume of total securities during the three months ended September 30, 2022 increased \$6.9 billion, or 55.2%, compared to the same period in 2021 while the average volume of total securities during the nine months ended September 30, 2022 increased \$5.9 billion, or 47.7%, compared to the same period in 2021. Securities made up approximately 39.5% of average interest-earning assets during the three months ended September 30, 2022 compared to 28.4% during the same period in 2021 while securities made up approximately 37.9% of average interest-earning assets during the nine months ended September 30, 2022 compared to 29.2% during the same period in 2021. The increases during the three and nine months ended September 30, 2022 were primarily related to the investment of available funds (primarily from growth in customer deposits and reinvestment of amounts held in an interest-bearing account at the Federal Reserve) into taxable securities.

Average interest-bearing deposits (primarily amounts held in an interest-bearing account at the Federal Reserve) for the three months ended September 30, 2022 decreased \$2.5 billion, or 16.4%, compared to the same period in 2021 while average interest-bearing deposits (primarily amounts held in an interest-bearing account at the Federal Reserve) for the nine months ended September 30, 2022 increased \$341.1 million, or 2.7%, compared to the same period in 2021. Interest-bearing deposits (primarily amounts held in an interest-bearing account at the Federal Reserve) made up approximately 26.1% of average interest-earning assets during the three months ended September 30, 2022 compared to 34.7% during the same period in 2021 while interest-bearing deposits (primarily amounts held in an interest-bearing account at the Federal Reserve) made up approximately 27.4% of average interest-earning assets during the nine months ended September 30, 2022 compared to 30.4% during the same period of 2021. The decreases during the three and nine months ended September 30, 2022 were primarily related to the reinvestment of amounts held in an interest-bearing account at the Federal Reserve into taxable securities. The average yield on interest-bearing deposits (primarily amounts held in an interest-bearing account at the Federal Reserve) was 2.27% and 1.07% during the three and nine months ended September 30, 2022, respectively, compared to 0.15% and 0.12% during the same respective periods in 2021. The average yields on interest-bearing deposits during the three and nine months ended September 30, 2022 were impacted by higher interest rates paid on reserves held at the Federal Reserve, compared to the same respective periods in 2021.

The average rate paid on interest-bearing liabilities was 0.71% during the three months ended September 30, 2022, increasing 61 basis points from 0.10% during the same period in 2021 while the average rate paid on interest-bearing liabilities was 0.37% during the nine months ended September 30, 2022 increasing 27 basis points from 0.10% during the same period in 2021. Average deposits increased \$6.7 billion, or 17.1%, during the three months ended September 30, 2022 compared to the same period in 2021 and included a \$5.2 billion increase in average interest-bearing deposits and a \$1.5 billion increase in average non-interest bearing deposits. Average deposits increased \$6.9 billion, or 18.3%, during the nine months ended September 30, 2022 compared to the same period in 2021 and included a \$4.9 billion increase in average interest-bearing deposits and a \$2.0 billion increase in average non-interest bearing deposits. The ratio of average interest-bearing deposits to total average deposits was 59.6% and 58.9% during the three and nine months ended September 30, 2022 compared to 56.5% and 56.8% during the same respective periods in 2021. The average cost of deposits is primarily impacted by changes in market interest rates as well as changes in the volume and relative mix of interest-bearing deposits. The average cost of interest-bearing deposits and total deposits was 0.62% and 0.37%, respectively, during the three months ended September 30, 2022 compared to 0.07% and 0.04%, respectively, during the same period in 2021. The average cost of interest-bearing deposits and total deposits was 0.32% and 0.19%, respectively, during the nine months ended September 30, 2022 compared to 0.07% and 0.04%, respectively, during the same period in 2021. The average cost of deposits during 2022 was impacted by an increase in the interest rates we pay on most of our interest-bearing deposit products as a result of the aforementioned increase in market interest rates.

Our net interest spread, which represents the difference between the average rate earned on earning assets and the average rate paid on interest-bearing liabilities, was 2.72% and 2.49% during the three and nine months ended September 30, 2022 compared to 2.43% and 2.57% during the same respective periods in 2021. The net interest spread, as well as the net interest margin, will be impacted by future changes in short-term and long-term interest rate levels, as well as the impact from the competitive environment. A discussion of the effects of changing interest rates on net interest income is set forth in Item 3. Quantitative and Qualitative Disclosures About Market Risk included elsewhere in this report.

Our hedging policies permit the use of various derivative financial instruments, including interest rate swaps, swaptions, caps and floors, to manage exposure to changes in interest rates. Details of our derivatives and hedging activities are set forth in Note 8 - Derivative Financial Instruments in the accompanying notes to consolidated financial statements included elsewhere in this report. Information regarding the impact of fluctuations in interest rates on our derivative financial instruments is set forth in Item 3. Quantitative and Qualitative Disclosures About Market Risk included elsewhere in this report.

Credit Loss Expense

Credit loss expense is determined by management as the amount to be added to the allowance for credit loss accounts for various types of financial instruments including loans, securities and off-balance-sheet credit exposures after net charge-offs have been deducted to bring the allowances to a level which, in management's best estimate, is necessary to absorb expected credit losses over the lives of the respective financial instruments. The components of credit loss expense were as follows:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
Credit loss expense (benefit) related to:				
Loans	\$ (2,463)	\$ (3,023)	\$ (2,395)	\$ (7,402)
Off-balance-sheet credit exposures	2,463	3,023	2,395	7,467
Securities held to maturity	—	—	—	(2)
Total	\$ —	\$ —	\$ —	\$ 63

See the section captioned "Allowance for Credit Losses" elsewhere in this discussion for further analysis of credit loss expense related to loans and off-balance-sheet credit exposures.

Non-Interest Income

Total non-interest income for the three and nine months ended September 30, 2022 increased \$6.6 million, or 7.1%, and increased \$21.5 million, or 7.7%, respectively, compared to the same periods in 2021. Changes in the various components of non-interest income are discussed in more detail below.

Trust and Investment Management Fees. Trust and investment management fees for the three and nine months ended September 30, 2022 increased \$1.2 million, or 3.1%, and \$4.4 million, or 4.0%, respectively, compared to the same periods in 2021. Investment management fees are the most significant component of trust and investment management fees, making up approximately 78.0% and 82.4% of total trust and investment management fees for the first nine months of 2022 and 2021, respectively. The increase in trust and investment management fees during the three months ended September 30, 2022 was primarily due to increases in oil and gas fees (up \$2.9 million), real estate fees (up \$467 thousand) and estate fees (up \$314 thousand) partly offset by a decrease in investment management fees (down \$2.5 million).

The increase in trust and investment management fees during the nine months ended September 30, 2022 was primarily due to increases in oil and gas fees (up \$5.5 million) and real estate fees (up \$1.0 million) partly offset by decreases in investment management fees (down \$1.5 million) and estate fees (down \$574 thousand). Oil and gas fees during the three and nine months ended September 30, 2022 were impacted by increases in oil and gas prices. The fluctuations in estate fees and real estate fees during the comparable periods were primarily related to variations in transaction volumes. Investment management fees are generally based on the market value of assets within an account and are thus impacted by volatility in the equity and bond markets. The decreases in investment management fees during three and nine months ended September 30, 2022 were primarily related to lower average equity valuations, in part related to the sharp decline in equity valuations during the second and third quarters of 2022.

At September 30, 2022, trust assets, including both managed assets and custody assets, were primarily composed of equity securities (41.7% of assets), fixed income securities (33.8% of assets), alternative investments (7.5% of assets) and cash equivalents (9.6% of assets). The estimated fair value of these assets was \$40.1 billion (including managed assets of \$19.3 billion and custody assets of \$20.8 billion) at September 30, 2022, compared to \$43.3 billion (including managed assets of \$19.1 billion and custody assets of \$24.2 billion) at December 31, 2021 and \$41.2 billion (including managed assets of \$18.2 billion and custody assets of \$22.9 billion) at September 30, 2021.

Service Charges on Deposit Accounts. Service charges on deposit accounts for the three and nine months ended September 30, 2022 increased \$1.7 million, or 8.2%, and \$8.5 million, or 13.9%, respectively, compared to the same periods in 2021. The increase during the three months ended September 30, 2022 was primarily related to increases in overdraft charges on consumer and commercial accounts (up \$1.3 million and \$568 thousand, respectively) and consumer service charges (up \$260 thousand) partly offset by a decrease in commercial service charges (down \$400 thousand). The increase during the nine

months ended September 30, 2022 was primarily related to increases in overdraft charges on consumer and commercial accounts (up \$4.1 million and \$1.7 million, respectively), commercial service charges (up \$2.1 million) and consumer service charges (up \$702 thousand).

Overdraft charges totaled \$9.7 million (\$7.2 million consumer and \$2.4 million commercial) during the three months ended September 30, 2022 compared to \$7.8 million (\$5.9 million consumer and \$1.9 million commercial) during the same period in 2021. Overdraft charges totaled \$27.9 million (\$21.4 million consumer and \$6.5 million commercial) during the nine months ended September 30, 2022 compared to \$22.2 million (\$17.3 million consumer and \$4.9 million commercial) during the same period in 2021. The increases in overdraft charges during the three and nine months ended September 30, 2022 were impacted by increases in the volumes of fee assessed overdrafts relative to the same periods in 2021, in part due to growth in the number of accounts. The decrease in commercial service charges during the three months ended September 30, 2022 primarily resulted from a higher average earnings credit rate applied to deposits maintained by treasury management customers. Because average market interest rates were higher during 2022 compared to 2021, deposit balances were more valuable and yielded a higher average earnings credit rate. As a result, customers paid for less of their services through fees rather than with earnings credits applied to their deposit balances. The increase in commercial service charges during the nine months ended September 30, 2022 was primarily related to an increase in the volume of billable services compared to the same period in 2021, partly offset by the impact of a higher average earnings credit rate. The increases in consumer service charges during the three and nine months ended September 30, 2022 were partly related to increases in overall deposit accounts and volumes.

In June 2022, we expanded the overdraft grace feature first implemented in April 2021. This feature, which was previously only available to certain consumer demand deposit accounts, is now available to all of our consumer demand deposit accounts, regardless of direct deposit status. With this feature, no fees will be assessed on overdrafts of \$100 or less. Additionally, we also eliminated fees on non-sufficient and returned items for all consumer deposit accounts. We expect these changes will impact revenue by as much as \$3.5 million on an annual basis.

Insurance Commissions and Fees. Insurance commissions and fees for the three and nine months ended September 30, 2022 increased \$1.4 million, or 12.0%, and \$1.7 million, or 4.3%, respectively, compared to the same periods in 2021. The increase during the three months ended September 30, 2022 was primarily the result of an increase in commission income (up \$1.4 million). The increase during the nine months ended September 30, 2022 was the result of an increase in commission income (up \$2.7 million) partly offset by a decrease in contingent income (down \$964 thousand).

The increases in commission income during the three and nine months ended September 30, 2022 were primarily related to increases in commercial and personal lines property and casualty commissions. These increases were related to increased business volumes and increased market rates.

Contingent income totaled \$278 thousand and \$3.3 million during the three and nine months ended September 30, 2022, respectively, compared to \$241 thousand and \$4.3 million during the same periods in 2021. Contingent income primarily consists of amounts received from various property and casualty insurance carriers related to portfolio growth and the loss performance of insurance policies previously placed. These performance related contingent payments are seasonal in nature and are mostly received during the first quarter of each year. This performance related contingent income totaled \$1.9 million and \$3.2 million during the nine months ended September 30, 2022 and 2021, respectively. The decrease in performance related contingent income during 2022 was related to low growth within the portfolio and a deterioration in the loss performance of insurance policies previously placed. This deterioration was impacted by a severe weather event in Texas during the first quarter of 2021 that resulted in a significant increase in property and casualty claims and losses. Contingent income also includes amounts received from various benefit plan insurance companies related to the volume of business generated and/or the subsequent retention of such business. This benefit plan related contingent income totaled \$232 thousand and \$1.4 million during the three and nine months ended September 30, 2022, respectively, compared to \$201 thousand and \$1.1 million during the same respective periods in 2021.

Interchange and Card Transaction Fees. Interchange fees, or “swipe” fees, are charges that merchants pay to us and other card-issuing banks for processing electronic payment transactions. Interchange and card transaction fees consist of income from debit and credit card usage, point of sale income from PIN-based card transactions and ATM service fees. Interchange and card transaction fees are reported net of related network costs.

Net interchange and card transaction fees for the three and nine months ended September 30, 2022 increased \$124 thousand, or 2.8%, and \$527 thousand, or 4.0%, respectively, compared to the same periods in 2021 primarily due to increases in transaction volumes as well as the impact of new card products partly offset by an increase in network costs. A comparison of gross and net interchange and card transaction fees for the reported periods is presented in the table below.

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
Income from card transactions	\$ 8,292	\$ 7,721	\$ 24,081	\$ 21,666
ATM service fees	871	841	2,502	2,492
Gross interchange and card transaction fees	9,163	8,562	26,583	24,158
Network costs	4,549	4,072	12,832	10,934
Net interchange and card transaction fees	\$ 4,614	\$ 4,490	\$ 13,751	\$ 13,224

Federal Reserve rules applicable to financial institutions that have assets of \$10 billion or more provide that the maximum permissible interchange fee for an electronic debit transaction is the sum of 21 cents per transaction and 5 basis points multiplied by the value of the transaction. An upward adjustment of no more than 1 cent to an issuer's debit card interchange fee is allowed if the card issuer develops and implements policies and procedures reasonably designed to achieve certain fraud-prevention standards. The Federal Reserve also has rules governing routing and exclusivity that require issuers to offer two unaffiliated networks for routing transactions on each debit or prepaid product.

Other Charges, Commissions and Fees. Other charges, commissions and fees for the three months ended September 30, 2022 increased \$1.3 million, or 13.4%, compared to the same period in 2021. The increase was primarily related to increases in income from the placement of money market accounts (up \$1.6 million) and merchant services rebates/bonuses (up \$417 thousand), among other things, partly offset by a decrease in income from the sale of mutual funds (down \$983 thousand), among other things. Other charges, commissions and fees for the nine months ended September 30, 2022 increased \$3.9 million, or 14.5%, compared to the same period in 2021. The increase was primarily related to increases in income from the placement of money market accounts (up \$2.6 million), merchant services rebates/bonuses (up \$1.3 million), letter of credit fees (up \$681 thousand) and funds transfer service charges (up \$446 thousand), among other things, partly offset by a decrease in income from the sale of mutual funds (down \$1.1 million), among other things.

Other Non-Interest Income. Other non-interest income for the three months ended September 30, 2022 increased \$879 thousand, or 10.3%, compared to the same period in 2021. The increase was primarily related to increases in sundry and other miscellaneous income (up \$927 thousand), public finance underwriting fees (up \$629 thousand) and income from customer foreign exchange transactions (up \$364 thousand), among other things, partly offset by a decrease in income from customer derivative and securities trading transactions (down \$660 thousand), among other things. Sundry income during the three months ended September 30, 2022 included \$1.2 million in card related incentives/rebates, among other things. The fluctuations in income from public finance underwriting fees; customer derivative and securities trading transactions and customer foreign exchange transactions were primarily related to fluctuations in transaction volumes.

Other non-interest income for the nine months ended September 30, 2022 increased \$2.4 million, or 9.3%, compared to the same period in 2021. The increase was primarily related to increases in sundry and other miscellaneous income (up \$3.2 million), public finance underwriting fees (up \$2.3 million) and income from customer foreign exchange transactions (up \$1.3 million) partly offset by decreases in gains on the sale of foreclosed and other assets (down \$2.0 million), income from customer derivative and securities trading transactions (down \$1.1 million) and mineral interest income (down \$574 thousand), among other things. Sundry income during the nine months ended September 30, 2022 included \$2.2 million in card related incentives/rebates, \$1.2 million related to the recovery of prior write-offs and \$458 thousand related to a contract fee. The increases in public finance underwriting fees and income from customer foreign exchange transactions were primarily related to increases in transaction volumes. Gains on the sale of assets during 2021 included \$1.8 million related to the sale of certain parking lots in downtown San Antonio during the second quarter. The decrease in income from customer derivative transactions was primarily due to a decrease in transaction volume. The decrease in mineral interest income was related to the donation of certain mineral interests in 2021.

Non-Interest Expense

Total non-interest expense for the three and nine months ended September 30, 2022 increased \$39.9 million, or 18.3%, and increased \$99.6 million, or 15.5%, respectively, compared to the same periods in 2021. Changes in the various components of non-interest expense are discussed below.

Salaries and Wages. Salaries and wages for the three and nine months ended September 30, 2022 increased \$27.7 million, or 27.9%, and \$65.4 million, or 22.6%, respectively, compared to the same periods in 2021. The increases in salaries and wages were primarily related to increases in salaries, due to annual merit and market increases as well as the implementation of a \$20 per hour minimum wage in December, 2021. Salaries and wages were also impacted by increases in the number of employees, increases in incentive and stock-based compensation and, primarily during the nine months ended September 30, 2022, a decrease in salary costs deferred in connection with loan originations as the first quarter of 2021 was impacted by the high volume of PPP loan originations. The increases in the number of employees were partly related to our investments in organic expansion in the Houston and Dallas markets as well as preparations for our mortgage loan product offering. We are experiencing a competitive labor market which has resulted in and could continue to result in an increase in our staffing costs.

Employee Benefits. Employee benefits expense for the three and nine months ended September 30, 2022 increased \$104 thousand, or 0.5%, and \$3.8 million, or 6.0%, respectively, compared to the same periods in 2021. The increase during the three months ended September 30, 2022 was primarily related to increases in payroll taxes, medical benefits expense and other employee benefits, among other things, partly offset by a decrease in 401(k) plan expense, primarily due to a discretionary profit sharing accrual during the third quarter of 2021, and an increase in the net periodic benefit related to our defined benefit retirement plan. The increase during the nine months ended September 30, 2022 was primarily related to increases in payroll taxes, medical benefits expense, 401(k) plan expense and other employee benefits, among other things, partly offset by an increase in the net periodic benefits related to our defined benefit retirement plan.

Our defined benefit retirement and restoration plans were frozen in 2001 which has helped to reduce the volatility in retirement plan expense. We nonetheless still have funding obligations related to these plans and could recognize expense related to these plans in future years, which would be dependent on the return earned on plan assets, the level of interest rates and employee turnover. See Note 12 - Defined Benefit Plans for additional information related to our net periodic pension benefit/cost.

Net Occupancy. Net occupancy expense for the three and nine months ended September 30, 2022 increased \$925 thousand, or 3.4%, and \$4.0 million, or 5.0%, respectively, compared to the same periods in 2021. The increase during the three months ended September 30, 2022 was primarily related to increases in lease expense (up \$545 thousand) and depreciation on buildings and leasehold improvements (together up \$313 thousand), among other things. The increase during the nine months ended September 30, 2022 was primarily related to increases in repairs and maintenance/service contracts expense (up \$1.6 million), lease expense (up \$1.1 million), depreciation on buildings and leasehold improvements (together up \$976 thousand) and insurance expense (up \$477 thousand), among other things. The increases in the aforementioned components of net occupancy expense were impacted, in part, by our expansion within the Houston and Dallas market areas.

Technology, Furniture and Equipment. Technology, furniture and equipment expense for the three and nine months ended September 30, 2022 increased \$2.3 million, or 8.0%, and \$5.4 million, or 6.3%, respectively, compared to the same periods in 2021. The increases during the three and nine months ended September 30, 2022 were primarily related to increases in cloud services expense (up \$999 thousand and \$2.9 million, respectively), depreciation of furniture and equipment (up \$189 thousand and \$1.1 million, respectively), service contracts expense (up \$240 thousand and \$823 thousand, respectively) and software maintenance (up \$846 thousand and \$289 thousand, respectively), among other things.

Deposit Insurance. Deposit insurance expense totaled \$4.3 million and \$11.6 million for the three and nine months ended September 30, 2022, respectively, compared to \$3.1 million and \$8.9 million for the three and nine months ended September 30, 2021. The increases were primarily related to an increase in total assets. In October 2022, the Federal Deposit Insurance Corporation adopted a final rule to increase the initial base deposit insurance assessment rate schedules uniformly by 2 basis points beginning with the first quarterly assessment period of 2023.

Other Non-Interest Expense. Other non-interest expense for the three and nine months ended September 30, 2022 increased \$7.7 million, or 20.3%, and \$18.4 million, or 15.8%, respectively, compared to the same periods in 2021. The increase during the three months ended September 30, 2022 included increases in advertising/promotions expense (up \$2.0 million); professional services expense (up \$1.3 million); travel, meals and entertainment (up \$1.2 million); and sundry and other miscellaneous expenses (up \$1.2 million), among other things.

The increase during the nine months ended September 30, 2022 included increases in advertising/promotions expense (up \$4.8 million); professional services expense (up \$4.3 million); travel, meals and entertainment (up \$4.2 million); sundry and

other miscellaneous expenses (up \$1.4 million) and business development expense (up \$1.1 million), among other things. Other non-interest expense during the nine months ended September 30, 2022 was also impacted by a decrease in costs deferred as loan origination costs (down \$1.2 million) as the first quarter of 2021 was impacted by a large volume of PPP loan originations. The impact of the aforementioned items was partly offset by a decrease in donations expense (down \$3.4 million), which was impacted by \$3.3 million in contributions to the Frost Charitable Foundation during the first and second quarters of 2021, among other things. Sundry and other miscellaneous expense for the three and nine months ended September 30, 2022 included a \$1.6 million accrual related to a probable loss.

Results of Segment Operations

We are managed under a matrix organizational structure whereby our two primary operating segments, Banking and Frost Wealth Advisors, overlap a regional reporting structure. A third operating segment, Non-Banks, is for the most part the parent holding company, as well as certain other insignificant non-bank subsidiaries of the parent that, for the most part, have little or no activity. A description of each segment, the methodologies used to measure segment financial performance and summarized operating results by segment are described in Note 15 - Operating Segments in the accompanying notes to consolidated financial statements included elsewhere in this report. Segment operating results are discussed in more detail below.

Banking

Net income for the three and nine months ended September 30, 2022 increased \$62.0 million, or 61.6%, and \$46.8 million, or 14.6%, respectively, compared to the same periods in 2021. The increase during the three months ended September 30, 2022 was primarily the result of a \$109.1 million increase in net interest income and a \$4.7 million increase in non-interest income partly offset by a \$37.3 million increase in non-interest expense and a \$14.5 million increase in income tax expense. The increase during the nine months ended September 30, 2022 was primarily the result of by a \$147.8 million increase in net interest income and a \$16.1 million increase in non-interest income partly offset by a \$92.6 million increase in non-interest expense and a \$24.5 million increase in income tax expense.

Net interest income for the three and nine months ended September 30, 2022 increased \$109.1 million, or 44.1%, and \$147.8 million, or 19.8%, respectively, compared to the same periods in 2021. The increase during the three months ended September 30, 2022 was primarily related to an increase in the average yield on interest-bearing deposits (primarily amounts held in an interest-bearing account at the Federal Reserve); an increase in the average volume of taxable securities; increases in the average yield on and, to a lesser extent, the average volume of loans; and increases in the average volume of and the average taxable-equivalent yield on tax-exempt securities. The impact of these items was partly offset by increases in the average cost of interest-bearing deposit accounts (primarily money market deposit accounts) and an increase in the average cost of repurchase agreements, among other things. The increase during the nine months ended September 30, 2022 was primarily related to an increase in the average volume of taxable securities; an increase in the average yield on interest-bearing deposits (primarily amounts held in an interest-bearing account at the Federal Reserve); an increase in the average yield on loans; and an increase in the average volume of tax-exempt securities. The impact of these items was partly offset by increases in the average cost and the average volume of interest-bearing deposit accounts (primarily money market deposit accounts), an increase in the average cost of repurchase agreements and a decrease in the average volume of loans. See the analysis of net interest income included in the section captioned "Net Interest Income" included elsewhere in this discussion.

Credit loss expense/benefit was not significant for the Banking segment during the reported periods. See the sections captioned "Credit Loss Expense" and "Allowance for Credit Losses" elsewhere in this discussion for further analysis of credit loss expense related to loans and off-balance-sheet commitments.

Non-interest income for the three months ended September 30, 2022 increased \$4.7 million, or 9.2%, while non-interest income for the nine months ended September 30, 2022 increased \$16.1 million, or 10.5%, compared to the same respective periods in 2021. The increases during the three and nine months ended September 30, 2022 were primarily due to increases in service charges on deposit accounts; insurance commissions and fees; other charges, commissions and fees; and other non-interest income. The increase in service charges on deposit accounts during the three months ended September 30, 2022 was primarily related to increases in overdraft charges on consumer and commercial accounts and consumer service charges partly offset by a decrease in commercial service charges. The increase in service charges on deposit accounts during the nine months ended September 30, 2022 was primarily related to increases in overdraft charges on consumer and commercial accounts, commercial service charges and consumer service charges. The increases in overdraft charges during the three and nine months ended September 30, 2022 were impacted by increases in the volumes of fee assessed overdrafts relative to the same periods in 2021. The increases in consumer service charges during the three and nine months ended September 30, 2022 were partly related to increases in overall deposit accounts and volumes. The decrease in commercial service charges during the three months ended September 30, 2022 primarily resulted from a higher average earnings credit rate applied to deposits maintained by treasury management customers. The increase in commercial service charges during the nine months ended September 30,

2022 was primarily related to an increase in the volumes of billable services compared to the same period in 2021, partly offset by the impact of a higher average earnings credit rate. The increases in insurance commissions and fees during the three and nine months ended September 30, 2022 were primarily related to increases in commission income, while the increase during the nine months ended September 30, 2022 was partly offset by a decrease in contingent income. Insurance commissions and fees are further discussed below in relation to Frost Insurance Agency. The increases in other charges, commissions and fees during the three and nine months ended September 30, 2022 were primarily related to increases in merchant services rebates/bonuses, among other things, and, additionally for the nine months ended September 30, 2022, increases in letter of credit fees and funds transfer service charges. The increases in other non-interest income during the three and nine months ended September 30, 2022 were primarily due to increases in sundry and other miscellaneous income; public finance underwriting fees; and income from customer foreign exchange transactions. The increases from these items were partly offset by decreases in income from customer derivative and securities trading transactions, among other things, and, for the nine months ended September 30, 2022, a decrease in gains on the sale of foreclosed and other assets. Sundry and other miscellaneous income during the three and nine months ended September 30, 2022 was impacted by certain card related incentives/rebates. During the nine months ended September 30, 2022, sundry and other miscellaneous income was also impacted by the recovery of prior write-offs and the recognition of a contract fee. The fluctuations in income from public finance underwriting fees; customer derivative and securities trading transactions and customer foreign exchange transactions were primarily related to fluctuations in transaction volumes. See the analysis of these categories of non-interest income included in the section captioned “Non-Interest Income” included elsewhere in this discussion.

Non-interest expense for three months ended September 30, 2022 increased \$37.3 million, or 20.1%, while non-interest expense for the nine months ended September 30, 2022 increased \$92.6 million, or 16.9%, compared to the same respective periods in 2021. The increases during the three and nine months ended September 30, 2022 were primarily due to increases in salaries and wages and other non-interest expense and, to a lesser extent, increases in technology, furniture and equipment expense, net occupancy expense and deposit insurance. Non-interest expense for the nine months ended September 30, 2022 was also negatively impacted by an increase in employee benefit expense. The increases in salaries and wages during the three and nine months ended September 30, 2022, were primarily related to increases in salaries, due to annual merit and market increases as well as the implementation of a \$20 per hour minimum wage in December, 2021. Salaries and wages were also impacted by increases in the number of employees, increases in incentive and stock based compensation and, primarily during the nine months ended September 30, 2022, a decrease in salary costs deferred in connection with loan originations as the first quarter of 2021 was impacted by the high volume of PPP loan originations. The increases in other non-interest expense during the three and nine months ended September 30, 2022 were primarily related to increases in advertising/promotions expense; professional services expense; travel, meals and entertainment; and sundry and other miscellaneous expenses. Sundry and other miscellaneous expenses for the three and nine months ended September 30, 2022 were impacted by an accrual related to a probable loss. Other non-interest expense during the nine months ended September 30, 2022 was also impacted by a decrease in costs deferred as loan origination costs as the first quarter of 2021 was impacted by a large volume of PPP loan originations. The increases in the aforementioned items during the nine months ended September 30, 2022 were partly offset by a decrease in donations expense, among other things. Donations expense during 2021 was impacted by \$3.3 million in contributions to the Frost Charitable Foundation in the first and second quarters. The increases in technology, furniture and equipment expense during the three and nine months ended September 30, 2022 were primarily related to increases in cloud services expense, depreciation of furniture and equipment, service contracts expense and software maintenance, among other things. The increases in net occupancy during the three and nine months ended September 30, 2022 were primarily related to increases in depreciation on buildings and leasehold improvements and lease expense, among other things, and, for the nine months ended September 30, 2022, increases in repairs and maintenance/service contracts expense and insurance expense. The increases in the aforementioned components of net occupancy expense were impacted, in part, by our expansion within the Houston and Dallas market areas. The increases in deposit insurance during the three and nine months ended September 30, 2022 were primarily related to an increase in total assets. The increase in employee benefits expense during the nine months ended September 30, 2022 was primarily related to increases in payroll taxes, medical benefits expense, 401(k) plan expense and other employee benefits, among other things, partly offset by an increase in the net periodic benefits related to our defined benefit retirement plan. See the analysis of these categories of non-interest expense included in the section captioned “Non-Interest Expense” included elsewhere in this discussion.

Frost Insurance Agency, which is included in the Banking operating segment, had gross commission revenues of \$13.2 million and \$41.6 million during the three and nine months ended September 30, 2022, respectively, compared to \$11.7 million and \$39.9 million during the same respective periods in 2021. The increase during the three months ended September 30, 2022 was primarily related to increases in commission income while the increase during the nine months ended September 30, 2022 was primarily related an increase in commission income partly offset by a decrease in contingent income. The increases in gross commission income during the three and nine months ended September 30, 2022 were primarily related to increases in commercial and personal lines property and casualty commissions, due to increases in business volumes and market rates. The decrease in contingent income during the nine months ended September 30, 2022 was primarily related to a decrease in

performance related contingent payments due to low growth within the portfolio and a deterioration in the loss performance of insurance policies previously placed. The decrease in performance related contingent commissions during the nine months ended September 30, 2022 was partly offset by an increase in contingent commissions received from various benefit plan insurance companies. See the analysis of insurance commissions and fees included in the section captioned “Non-Interest Income” included elsewhere in this discussion.

Frost Wealth Advisors

Net income for the three and nine months ended September 30, 2022 increased \$218 thousand, or 2.3%, and increased \$761 thousand, or 2.8%, respectively, compared to the same periods in 2021. The increase during the three months ended September 30, 2022 was primarily the result of a \$1.9 million increase in non-interest income and a \$821 thousand increase in net interest income partly offset by a \$2.4 million increase in non-interest expense. The increase during the nine months ended September 30, 2022 was primarily the result of a \$6.0 million increase in non-interest income and a \$1.5 million increase in net interest income partly offset by a \$6.6 million increase in non-interest expense.

Net interest income for the three and nine months ended September 30, 2022 increased \$821 thousand, or 153.2%, and \$1.5 million, or 97.1%, respectively, compared to the same periods in 2021. The increases during the three and nine months ended September 30, 2022 were primarily due to increases in the average volume of funds provided by Frost Wealth Advisors and an increase in the average funds transfer prices allocated to such funds. See the analysis of net interest income included in the section captioned “Net Interest Income” included elsewhere in this discussion.

Non-interest income for the three and nine months ended September 30, 2022 increased \$1.9 million, or 4.5%, and \$6.0 million, or 4.8%, respectively, compared to the same periods in 2021. The increases during the three and nine months ended September 30, 2022 were primarily due to increases in trust and investment management fees; other charges, commissions and fees; and other non-interest income. Trust and investment management fee income is the most significant income component for Frost Wealth Advisors. Investment management fees are the most significant component of trust and investment management fees, making up approximately 78.0% of total trust and investment management fees for the first nine months of 2022. The increases in trust and investment management fees during the three and nine months ended September 30, 2022 were primarily due to increases in oil and gas fees and real estate fees partly offset by decreases in investment management fees. Trust and investment management fees for the three months ended September 30, 2022 were also positively impacted by an increase in estate fees compared to the same period in 2021 while trust and investment management fees for the nine months ended September 30, 2022 were also negatively impacted by a decrease in estate fees compared to the same period in 2021. Oil and gas fees during the three and nine months ended September 30, 2022 were impacted by increases in oil and gas prices. The decreases in investment management fees during three and nine months ended September 30, 2022 were primarily related to lower average equity valuations, in part related to the sharp decline in equity valuations during the second and third quarters of 2022. The fluctuations in estate fees and real estate fees during the comparable periods were primarily related to variations in transaction volumes. The increases in other charges, commissions and fees during the three and nine months ended September 30, 2022 were primarily related to increases in income from the placement of money market accounts, among other things, partly offset by decreases in income from the sale of mutual funds, among other things. The increases in other non-interest income during the three and nine months ended September 30, 2022 were primarily related to increases in income from customer securities trading transactions partly offset by decreases in sundry and other miscellaneous income. See the analysis of trust and investment management fees and other charges, commissions and fees included in the section captioned “Non-Interest Income” included elsewhere in this discussion.

Non-interest expense for the three and nine months ended September 30, 2022 increased \$2.4 million, or 7.9%, and \$6.6 million, or 7.2%, respectively, compared to the same periods in 2021. The increases during the three and nine months ended September 30, 2022 were primarily due to increases in salaries and wages and other non-interest expense, and to a lesser extent, increases in employee benefits expense and technology, furniture and equipment expense.

The increases in salaries and wages during the three and nine months ended September 30, 2022 were primarily due to increases in salaries, due to annual merit and market increases, as well as increases in commission expense and incentive and stock compensation expense. The increases in other non-interest expense during the three and nine months ended September 30, 2022 were mostly related to increases in sundry and other miscellaneous expenses, which was primarily related to the write-off of certain assets; and travel, meals and entertainment; among other things. Other non-interest expense for the nine months ended September 30, 2022 was also negatively impacted by an increase in research and platform fees. The increases in employee benefits during the three and nine months ended September 30, 2022 were primarily related to increases in 401(k) plan expense, medical benefits expense and payroll taxes. The increases in technology, furniture and equipment expense during the three and nine months ended September 30, 2022 were primarily related to increases in cloud services expense.

Non-Banks

The Non-Banks operating segment had net losses of \$2.6 million and \$8.2 million during the three and nine months ended September 30, 2022, respectively, compared to net losses of \$2.1 million and \$6.6 million during the same periods in 2021. The increase in the net loss during the three months ended September 30, 2022 was primarily due to an increase in net interest expense. The increase in the net loss during the nine months ended September 30, 2022 was primarily due to a decrease in other non-interest income combined with an increase in net interest expense. The increases in net interest expense during the three and nine months ended September 30, 2022 were primarily related to increases in the average rate paid on our long-term borrowings partly offset by the impact of the redemption, during the fourth quarter of 2021, of \$13.4 million of junior subordinated deferrable interest debentures issued to WNB Capital Trust I. The decrease in other non-interest income during the nine months ended September 30, 2022 was primarily due to a decrease in mineral interest income as the related mineral interest assets were donated to the Frost Charitable Foundation during the third quarter of 2021.

Income Taxes

During the three months ended September 30, 2022, we recognized income tax expense of \$27.7 million, for an effective tax rate of 14.0%, compared to \$13.3 million, for an effective tax rate of 11.0%, for the same period in 2021. During the nine months ended September 30, 2022, we recognized income tax expense of \$61.0 million, for an effective tax rate of 13.6%, compared to \$36.3 million, for an effective tax rate of 9.6%, for the same period in 2021. The effective income tax rates differed from the U.S. statutory federal income tax rate of 21% during 2022 and 2021 primarily due to the effect of tax-exempt income from loans, securities and life insurance policies and the income tax effects associated with stock-based compensation, among other things, and their relative proportion to total pre-tax net income. The increases in the effective tax rates during 2022 were primarily related to increases in projected pre-tax net income and, to a lesser extent during the nine months ended September 30, 2022, a decrease in discrete tax benefits associated with stock-based compensation.

Average Balance Sheet

Average assets totaled \$51.3 billion for the nine months ended September 30, 2022 representing an increase of \$6.3 billion, or 13.9%, compared to average assets for the same period in 2021. Earning assets increased \$5.9 billion, or 13.8%, during the first nine months of 2022 compared to the same period in 2021. The increase in earning assets was primarily related to a \$6.2 billion increase in average taxable securities and a \$341.1 million increase in average interest-bearing deposits (primarily amounts held in an interest-bearing account at the Federal Reserve) partly offset by a \$404.8 million decrease in average loans. Average deposits increased \$6.9 billion, or 18.3%, during the first nine months of 2022 compared to the same period in 2021. Growth in average deposits was related to increased customer balances as well as new customer accounts. The increase included a \$2.0 billion increase in non-interest bearing deposits and a \$4.9 billion increase in interest-bearing deposit accounts. Average non-interest bearing deposits made up 41.1% and 43.2% of average total deposits during the first nine months of 2022 and 2021, respectively.

Loans

Details of our loan portfolio are presented in Note 3 - Loans in the accompanying notes to consolidated financial statements included elsewhere in this report. Loans increased \$614.2 million, or 3.8%, from \$16.3 billion at December 31, 2021 to \$17.0 billion at September 30, 2022. As further discussed below, during the second quarter of 2020, we began originating loans to qualified small businesses under the Paycheck Protection Program ("PPP") administered by the SBA under the provisions of the CARES Act. Excluding PPP loans, total loans would have otherwise increased \$992.1 million, or 6.2%, from \$15.9 billion at December 31, 2021 to \$16.9 billion at September 30, 2022. The majority of our loan portfolio is comprised of commercial and industrial loans, energy loans, and real estate loans. Real estate loans include both commercial and consumer balances. Selected details related to our loan portfolio segments are presented below. Refer to our 2021 Form 10-K for a more detailed discussion of our loan origination and risk management processes.

Commercial and Industrial. Commercial and industrial loans increased \$166.9 million, or 3.1%, from \$5.4 billion at December 31, 2021 to \$5.5 billion at September 30, 2022. Our commercial and industrial loans are a diverse group of loans to small, medium and large businesses. The purpose of these loans varies from supporting seasonal working capital needs to term financing of equipment. While some short-term loans may be made on an unsecured basis, most are secured by the assets being financed with collateral margins that are consistent with our loan policy guidelines. The commercial and industrial loan portfolio also includes commercial leases and purchased shared national credits ("SNC"s).

Energy. Energy loans include loans to entities and individuals that are engaged in various energy-related activities including (i) the development and production of oil or natural gas, (ii) providing oil and gas field servicing, (iii) providing energy-related transportation services, (iv) providing equipment to support oil and gas drilling, (v) refining petrochemicals, or (vi) trading oil, gas and related commodities. Energy loans decreased \$159.7 million, or 14.8%, from \$1.1 billion at December 31, 2021 to

\$918.1 million at September 30, 2022. We have recently made efforts to reduce our exposure to energy loans. Nonetheless energy loans remain our largest industry concentration totaling 5.4% of total loans (also 5.4% excluding PPP loans) at September 30, 2022, down from 6.6% of total loans (6.8% excluding PPP loans) at December 31, 2021. The average loan size, the significance of the portfolio and the specialized nature of the energy industry requires a highly prescriptive underwriting policy. Exceptions to this policy are rarely granted. Due to the large borrowing requirements of this customer base, the energy loan portfolio includes participations and SNCs.

Purchased Shared National Credits. Purchased shared national credits are participations purchased from upstream financial organizations and tend to be larger in size than our originated portfolio. Our purchased SNC portfolio totaled \$710.3 million at September 30, 2022, increasing \$11.9 million, or 1.7%, from \$698.4 million at December 31, 2021. At September 30, 2022, 29.6% of outstanding purchased SNCs were related to the construction industry while 23.4% were related to the energy industry, 15.5% were related to the financial services industry and 11.7% were related to the real estate management industry. The remaining purchased SNCs were diversified throughout various other industries, with no other single industry exceeding 10% of the total purchased SNC portfolio. Additionally, almost all of the outstanding balance of purchased SNCs was included in the energy and commercial and industrial portfolio, with the remainder included in the real estate categories. SNC participations are originated in the normal course of business to meet the needs of our customers. As a matter of policy, we generally only participate in SNCs for companies headquartered in or which have significant operations within our market areas. In addition, we must have direct access to the company's management, an existing banking relationship or the expectation of broadening the relationship with other banking products and services within the following 12 to 24 months. SNCs are reviewed at least quarterly for credit quality and business development successes.

Commercial Real Estate. Commercial real estate loans increased \$654.7 million, or 8.6%, from \$7.6 billion at December 31, 2021 to \$8.2 billion at September 30, 2022. Commercial real estate loans represented 82.8% of total real estate loans at September 30, 2022 compared to 84.3% at December 31, 2021. The majority of our commercial real estate loan portfolio consists of commercial real estate mortgages, which includes both permanent and intermediate term loans. These loans are viewed primarily as cash flow loans and secondarily as loans secured by real estate. Consequently, these loans must undergo the analysis and underwriting process of a commercial and industrial loan, as well as that of a real estate loan. At September 30, 2022, approximately 49.5% of the outstanding principal balance of our commercial real estate loans were secured by owner-occupied properties.

Consumer Real Estate and Other Consumer Loans. The consumer real estate loan portfolio increased \$304.9 million, or 21.6%, from \$1.4 billion at December 31, 2021 to \$1.7 billion at September 30, 2022. Combined, home equity loans and lines of credit made up 61.9% and 59.8% of the consumer real estate loan total at September 30, 2022 and December 31, 2021, respectively. We offer home equity loans up to 80% of the estimated value of the personal residence of the borrower, less the value of existing mortgages and home improvement loans. We have not generally originated 1-4 family mortgage loans since 2000; however, from time to time, we invested in such loans to meet the needs of our customers or for other regulatory compliance purposes. Nonetheless, we expect to begin regular production of 1-4 family mortgage loans for portfolio investment purposes in the first half of 2023. Consumer and other loans increased \$25.2 million, or 5.3%, from December 31, 2021. The consumer and other loan portfolio primarily consists of automobile loans, overdrafts, unsecured revolving credit products, personal loans secured by cash and cash equivalents and other similar types of credit facilities.

Paycheck Protection Program. We have originated loans to qualified small businesses under the PPP administered by the SBA under the provisions of the CARES Act. Loans covered by the PPP may be eligible for loan forgiveness for certain costs incurred related to payroll, group health care benefit costs and qualifying mortgage, rent and utility payments. The remaining loan balance after forgiveness of any amounts is still fully guaranteed by the SBA. Refer to the 2021 Form 10-K for additional details.

During the nine months ended September 30, 2022, we recognized approximately \$2.6 million in PPP loan related deferred processing fees (net of amortization of related deferred origination costs) as a yield adjustment and this amount is included in interest income on loans. During the nine months ended September 30, 2021, we recognized approximately \$88.9 million in PPP loan related deferred net processing fees. As a result of the inclusion of these net fees in interest income, the average yields on PPP loans were 3.00% during the nine months ended September 30, 2022, and 6.23% during the nine months ended September 30, 2021 compared to the stated interest rate of 1.0% on these loans. PPP related deferred processing fees and deferred origination costs are not expected to significantly impact interest income on loans in future periods.

Accruing Past Due Loans. Accruing past due loans are presented in the following tables. Also see Note 3 - Loans in the accompanying notes to consolidated financial statements included elsewhere in this report.

	Total Loans	Accruing Loans 30-89 Days Past Due		Accruing Loans 90 or More Days Past Due		Total Accruing Past Due Loans	
		Amount	Percent of Loans in Category	Amount	Percent of Loans in Category	Amount	Percent of Loans in Category
September 30, 2022							
Commercial and industrial	\$ 5,531,820	\$ 26,229	0.47 %	\$ 2,443	0.04 %	\$ 28,672	0.51 %
Energy	918,125	2,211	0.24	—	—	2,211	0.24
Paycheck Protection Program	51,048	13,841	27.11	7,879	15.43	21,720	42.54
Commercial real estate:							
Buildings, land and other	6,673,927	19,572	0.29	1,731	0.03	21,303	0.32
Construction	1,557,415	1,238	0.08	—	—	1,238	0.08
Consumer real estate	1,715,736	6,537	0.38	1,803	0.11	8,340	0.49
Consumer and other	502,558	5,611	1.12	491	0.10	6,102	1.22
Total	<u>\$ 16,950,629</u>	<u>\$ 75,239</u>	0.44	<u>\$ 14,347</u>	0.08	<u>\$ 89,586</u>	0.52
Excluding PPP loans	<u>\$ 16,899,581</u>	<u>\$ 61,398</u>	0.36	<u>\$ 6,468</u>	0.04	<u>\$ 67,866</u>	0.40
December 31, 2021							
Commercial and industrial	\$ 5,364,954	\$ 29,491	0.55 %	\$ 7,802	0.15 %	\$ 37,293	0.70 %
Energy	1,077,792	1,353	0.13	215	0.02	1,568	0.15
Paycheck Protection Program	428,882	4,979	1.16	18,766	4.38	23,745	5.54
Commercial real estate:							
Buildings, land and other	6,272,339	37,033	0.59	8,687	0.14	45,720	0.73
Construction	1,304,271	188	0.01	—	—	188	0.01
Consumer real estate	1,410,790	4,866	0.34	2,177	0.15	7,043	0.49
Consumer and other	477,369	4,185	0.88	1,076	0.23	5,261	1.11
Total	<u>\$ 16,336,397</u>	<u>\$ 82,095</u>	0.50	<u>\$ 38,723</u>	0.24	<u>\$ 120,818</u>	0.74
Excluding PPP loans	<u>\$ 15,907,515</u>	<u>\$ 77,116</u>	0.48	<u>\$ 19,957</u>	0.13	<u>\$ 97,073</u>	0.61

Accruing past due loans at September 30, 2022 decreased \$31.2 million compared to December 31, 2021. The decrease was primarily related to decreases in past due non-construction related commercial real estate loans (down \$24.4 million), past due commercial and industrial loans (down \$8.6 million) and past due PPP loans (down \$2.0 million). PPP loans are fully guaranteed by the SBA and we expect to collect all amounts due related to these loans. Excluding PPP loans, accruing past due loans decreased \$29.2 million.

Non-Accrual Loans. Non-accrual loans are presented in the table below. Also see in Note 3 - Loans in the accompanying notes to consolidated financial statements included elsewhere in this report.

	September 30, 2022			December 31, 2021		
	Total Loans	Non-Accrual Loans		Total Loans	Non-Accrual Loans	
		Amount	Percent of Loans in Category		Amount	Percent of Loans in Category
Commercial and industrial	\$ 5,531,820	\$ 7,267	0.13 %	\$ 5,364,954	\$ 22,582	0.42 %
Energy	918,125	16,134	1.76	1,077,792	14,433	1.34
Paycheck Protection Program	51,048	—	—	428,882	—	—
Commercial real estate:						
Buildings, land and other	6,673,927	5,489	0.08	6,272,339	15,297	0.24
Construction	1,557,415	—	—	1,304,271	948	0.07
Consumer real estate	1,715,736	1,014	0.06	1,410,790	440	0.03
Consumer and other	502,558	—	—	477,369	13	—
Total	\$ 16,950,629	\$ 29,904	0.18	\$ 16,336,397	\$ 53,713	0.33
Excluding PPP loans	\$ 16,899,581	\$ 29,904	0.18	\$ 15,907,515	\$ 53,713	0.34
Allowance for credit losses on loans		\$ 234,315			\$ 248,666	
Ratio of allowance for credit losses on loans to non-accrual loans		783.56 %			462.95 %	

Non-accrual loans at September 30, 2022 decreased \$23.8 million from December 31, 2021 primarily due to decreases in non-accrual commercial and industrial loans and commercial real estate partially offset by an increase in non-accrual energy loans. The decreases were primarily related to principal payments, loans returning to accrual and charge offs.

Generally, loans are placed on non-accrual status if principal or interest payments become 90 days past due and/or management deems the collectibility of the principal and/or interest to be in question, as well as when required by regulatory requirements. Once interest accruals are discontinued, accrued but uncollected interest is charged to current year operations. Subsequent receipts on non-accrual loans are recorded as a reduction of principal, and interest income is recorded only after principal recovery is reasonably assured. Classification of a loan as non-accrual does not preclude the ultimate collection of loan principal or interest. There were no non-accrual commercial and industrial loans in excess of \$5.0 million at September 30, 2022 or December 31, 2021. Non-accrual energy loans included two credit relationships in excess of \$5.0 million totaling \$11.8 million at September 30, 2022. One of these credit relationships, which totaled \$6.7 million at September 30, 2022, was previously reported as non-accrual with an aggregate balance of \$9.6 million at December 31, 2021. The decrease in the aggregate balance of this credit relationship was related to principal payments made by the borrower. Non-accrual real estate loans primarily consist of land development, 1-4 family residential construction credit relationships and loans secured by office buildings and religious facilities. There were no non-accrual commercial real estate loans in excess of \$5.0 million at September 30, 2022 or December 31, 2021.

Allowance for Credit Losses

In the case of loans and securities, allowances for credit losses are contra-asset valuation accounts, calculated in accordance with Accounting Standards Codification (“ASC”) Topic 326 (“ASC 326”) Financial Instruments - Credit Losses, that are deducted from the amortized cost basis of these assets to present the net amount expected to be collected. In the case of off-balance-sheet credit exposures, the allowance for credit losses is a liability account, calculated in accordance with ASC 326, reported as a component of accrued interest payable and other liabilities in our consolidated balance sheets. The amount of each allowance account represents management's best estimate of current expected credit losses (“CECL”) on these financial instruments considering available information, from internal and external sources, relevant to assessing exposure to credit loss over the contractual term of the instrument. Relevant available information includes historical credit loss experience, current conditions and reasonable and supportable forecasts. While historical credit loss experience provides the basis for the estimation of expected credit losses, adjustments to historical loss information may be made for differences in current portfolio-specific risk characteristics, environmental conditions or other relevant factors. While management utilizes its best judgment and information available, the ultimate adequacy of our allowance accounts is dependent upon a variety of factors beyond our control, including the performance of our portfolios, the economy, changes in interest rates and the view of the regulatory authorities toward classification of assets. See our 2021 Form 10-K for additional information regarding our accounting policies related to credit losses.

Allowance for Credit Losses - Loans. The table below provides, as of the dates indicated, an allocation of the allowance for loan losses by loan portfolio segment; however, allocation of a portion of the allowance to one segment does not preclude its availability to absorb losses in other segments.

	Amount of Allowance Allocated	Percent of Loans in Each Category to Total Loans	Total Loans	Ratio of Allowance Allocated to Loans in Each Category
September 30, 2022				
Commercial and industrial	\$ 98,830	32.6 %	\$ 5,531,820	1.79 %
Energy	18,851	5.4	918,125	2.05
Paycheck Protection Program	—	0.3	51,048	—
Commercial real estate	100,607	48.6	8,231,342	1.22
Consumer real estate	8,035	10.1	1,715,736	0.47
Consumer and other	7,992	3.0	502,558	1.59
Total	<u>\$ 234,315</u>	<u>100.0 %</u>	<u>\$ 16,950,629</u>	1.38
Excluding PPP loans	<u>\$ 234,315</u>		<u>\$ 16,899,581</u>	1.39 %
December 31, 2021				
Commercial and industrial	\$ 72,091	32.9 %	\$ 5,364,954	1.34 %
Energy	17,217	6.6	1,077,792	1.60
Paycheck Protection Program	—	2.6	428,882	—
Commercial real estate	144,936	46.4	7,576,610	1.91
Consumer real estate	6,585	8.6	1,410,790	0.47
Consumer and other	7,837	2.9	477,369	1.64
Total	<u>\$ 248,666</u>	<u>100.0 %</u>	<u>\$ 16,336,397</u>	1.52
Excluding PPP loans	<u>\$ 248,666</u>		<u>\$ 15,907,515</u>	1.56

The allowance allocated to commercial and industrial loans totaled \$98.8 million, or 1.79% of total commercial and industrial loans, at September 30, 2022 increasing \$26.7 million, or 37.1%, compared to \$72.1 million, or 1.34% of total commercial and industrial loans, at December 31, 2021. Modeled expected credit losses increased \$10.7 million while qualitative factor (“Q-Factor”) and other qualitative adjustments related to commercial and industrial loans increased \$25.3 million. Specific allocations for commercial and industrial loans that were evaluated for expected credit losses on an individual basis decreased \$9.3 million from \$10.5 million at December 31, 2021 to \$1.3 million at September 30, 2022. The decrease in specific allocations for commercial and industrial loans was related to principal payments received and the recognition of charge-offs.

The allowance allocated to energy loans totaled \$18.9 million, or 2.05% of total energy loans, at September 30, 2022 increasing \$1.6 million, or 9.5%, compared to \$17.2 million, or 1.60% of total energy loans, at December 31, 2021. Modeled expected credit losses related to energy loans increased \$2.3 million while Q-Factor and other qualitative adjustments related to energy loans decreased \$855 thousand. Specific allocations for energy loans that were evaluated for expected credit losses on an individual basis totaled \$5.7 million at September 30, 2022 increasing \$195 thousand compared to \$5.5 million on December 31, 2021.

The allowance allocated to commercial real estate loans totaled \$100.6 million, or 1.22% of total commercial real estate loans, at September 30, 2022 decreasing \$44.3 million, or 30.6%, compared to \$144.9 million, or 1.91% of total commercial real estate loans, at December 31, 2021. Modeled expected credit losses related to commercial real estate loans increased \$7.7 million while Q-Factor and other qualitative adjustments related to commercial real estate loans decreased \$53.6 million. Specific allocations for commercial real estate loans that were evaluated for expected credit losses on an individual basis increased from \$400 thousand at December 31, 2021 to \$1.9 million at September 30, 2022.

The allowance allocated to consumer real estate loans totaled \$8.0 million, or 0.47% of total consumer real estate loans, at September 30, 2022 increasing \$1.5 million, or 22.0%, compared to \$6.6 million, or 0.47% of total consumer real estate loans, at December 31, 2021. Modeled expected credit losses related to consumer real estate loans increased \$1.3 million while Q-Factor and other qualitative adjustments related to consumer real estate loans increased \$91 thousand.

The allowance allocated to consumer loans totaled \$8.0 million, or 1.59% of total consumer loans, at September 30, 2022 increasing \$155 thousand, or 2.0%, compared to \$7.8 million, or 1.64% of total consumer loans, at December 31, 2021. Modeled expected credit losses related to consumer loans decreased \$938 thousand while Q-Factor and other qualitative

adjustments increased \$1.1 million, which was primarily due to an increase in the consumer overlay, which is further discussed below.

As more fully described in our 2021 Form 10-K, we measure expected credit losses over the life of each loan utilizing a combination of models which measure probability of default and loss given default, among other things. The measurement of expected credit losses is impacted by loan/borrower attributes and certain macroeconomic variables. Models are adjusted to reflect current impact of certain macroeconomic variables as well as their expected changes over a reasonable and supportable forecast period.

In estimating expected credit losses as of September 30, 2022, we utilized the Moody's Analytics September 2022 Baseline Scenario (the "September 2022 Baseline Scenario") to forecast the macroeconomic variables used in our models. The September 2022 Baseline Scenario was based on the review of a variety of surveys of baseline forecasts of the U.S. economy. The September 2022 Baseline Scenario projections included, among other things, (i) U.S. Nominal Gross Domestic Product annualized quarterly growth rate of 4.2% in the fourth quarter of 2022 followed by average annualized quarterly growth rates of 4.7% in 2023 and 4.9% through the end of the forecast period in the third quarter of 2024; (ii) average U.S. unemployment rate of 3.7% in the fourth quarter of 2022 followed by average annualized quarterly rates of 3.9% in 2023 and 4.0% through the end of the forecast period in the third quarter of 2024; (iii) average Texas unemployment rate of 4.2% in the fourth quarter of 2022 followed by average annualized quarterly rates of 4.1% in 2023 and 3.9% through the end of the forecast period in the third quarter of 2024; (iv) projected average 10 year Treasury rate of 3.1% in the fourth quarter of 2022, and increasing to 3.5% by the end of the forecast period in the third quarter of 2024.

In estimating expected credit losses as of December 31, 2021, we utilized the Moody's Analytics December 2021 Consensus Scenario (the "December 2021 Consensus Scenario") to forecast the macroeconomic variables used in our models. The December 2021 Consensus Scenario was based on the review of a variety of surveys of baseline forecasts of the U.S. economy. The December 2021 Consensus Scenario projections included, among other things, (i) U.S. Nominal Gross Domestic Product annualized quarterly growth rate of 6.4% in the first quarter of 2022, followed by annualized quarterly growth rates in the range of 3.8% to 5.4% during the remainder of 2022 and an average annualized growth rate of 4.8% through the end of the forecast period in the fourth quarter of 2023; (ii) U.S. unemployment rate of 4.3% in the first quarter of 2022 improving to 3.7% by the end of the forecast period in the fourth quarter of 2023 with Texas unemployment rates slightly higher at those dates; and (iii) projected average 10 year Treasury rate of 1.59% in the first quarter of 2022, increasing to average projected rates of 1.75% during the remainder of 2022 and 2.10% in 2023.

The overall loan portfolio, excluding PPP loans which are fully guaranteed by the SBA, as of September 30, 2022 increased \$992.1 million, or 6.2%, compared to December 31, 2021. This increase included a \$654.7 million, or 8.6%, increase in commercial real estate loans; a \$304.9 million, or 21.6%, increase in consumer real estate loans; a \$166.9 million, or 3.1%, increase in commercial and industrial loans; and a \$25.2 million, or 5.3%, increase in consumer and other loans partly offset by a \$159.7 million, or 14.8%, decrease in energy loans.

The weighted average risk grade for commercial and industrial loans increased to 6.41 at September 30, 2022 compared to 6.22 at December 31, 2021. This increase was primarily due to an increase in the weighted-average risk grade of pass-grade commercial and industrial loans to 6.25 at September 30, 2022 from 6.01 at December 31, 2021. Commercial and industrial loans graded "watch" and "special mention" (risk grades 9 and 10) decreased \$9.3 million during the first nine months of 2022 while classified commercial and industrial loans decreased \$16.8 million. Classified loans consist of loans having a risk grade of 11, 12 or 13. The weighted-average risk grade for energy loans decreased to 5.86 at September 30, 2022 from 6.06 at December 31, 2021. The decrease in the weighted average risk grade was partly related to a \$24.0 million decrease in energy loans graded "watch" and "special mention" (risk grades 9 and 10). Additionally, pass grade energy loans decreased \$134.0 million and the weighted-average risk grade of pass grade energy loans decreased from 5.78 at December 31, 2021 to 5.61 at September 30, 2022. The weighted average risk grade for commercial real estate loans decreased to 7.11 at September 30, 2022 from 7.19 at December 31, 2021. Pass grade commercial real estate loans increased \$742.4 million while the weighted-average risk grade of such loans decreased from 6.92 at December 31, 2021 to 6.90 September 30, 2022. Commercial real estate loans graded as "watch" and "special mention" decreased \$85.8 million and classified commercial real estate loans decreased \$1.9 million.

As noted above, our credit loss models utilized the economic forecasts in the Moody's September 2022 Baseline Scenario for our estimated expected credit losses as of September 30, 2022 and the Moody's December 2021 Consensus Scenario for our estimate of expected credit losses as of December 31, 2021. We qualitatively adjusted the model results based on these scenarios for various risk factors that are not considered within our modeling processes but are nonetheless relevant in assessing the expected credit losses within our loan pools. These qualitative factor, or Q-Factor, adjustments are discussed below.

Q-Factor adjustments are based upon management's judgment and current assessment as to the impact of risks related to changes in lending policies and procedures; economic and business conditions; loan portfolio attributes and credit concentrations; and external factors, among other things, that are not already captured within the modeling inputs, assumptions and other processes. Management assesses the potential impact of such items within a range of severely negative impact to positive impact and adjusts the modeled expected credit loss by an aggregate adjustment percentage based upon the assessment. As a result of this assessment as of September 30, 2022, modeled expected credit losses were adjusted upwards by a weighted-average Q-Factor adjustment of approximately 2.6%, resulting in a \$2.6 million total adjustment, compared to 2.3% at December 31, 2021, which resulted in a \$1.8 million total adjustment. The weighted-average Q-Factor adjustment at September 30, 2022 was based on a limited negative expected impact on our commercial and industrial and commercial real estate loan portfolios related to changes in loan portfolio concentrations; a limited negative expected impact on all of our loan portfolios related to changes in the volumes and severity of loan delinquencies, changes in risk grades and adverse classifications; a limited negative expected impact on our commercial and consumer real estate portfolios related to the potential deterioration of collateral values (no expected impact related to our commercial and industrial and consumer portfolios); a negative expected impact associated with national, regional and local economic and business conditions and developments that affect the collectability of loans; a severely negative expected impact from other risk factors associated with our commercial real estate construction and land loan portfolios, particularly the risks related to expected extensions; and limited negative impact to our commercial real estate construction, non-owner occupied and owner occupied loan portfolios, as well as a negative impact to our consumer loan portfolio related to changes in lending policies, procedures, underwriting standards and loan portfolio attributes, among other things.

We have also provided additional qualitative adjustments, or management overlays, as of September 30, 2022 as management believes there are still significant risks impacting certain categories of our loan portfolio. Q-Factor and other qualitative adjustments as of September 30, 2022 are detailed in the table below.

	Q-Factor Adjustment	Model Overlays	Office Building Overlays	Down-Side Scenario Overlay	Credit Concentration Overlays	Consumer Overlay	Total
Commercial and industrial	\$ 1,152	\$ —	\$ —	\$ 33,344	\$ 5,435	\$ —	\$ 39,931
Energy	173	—	—	—	4,346	—	4,519
Commercial real estate:							
Owner occupied	445	18,992	—	—	1,635	—	21,072
Non-owner occupied	80	10,672	23,590	—	586	—	34,928
Construction	587	11,202	5,710	—	808	—	18,307
Consumer real estate	156	—	—	—	—	—	156
Consumer and other	33	—	—	—	—	2,500	2,533
Total	\$ 2,626	\$ 40,866	\$ 29,300	\$ 33,344	\$ 12,810	\$ 2,500	\$ 121,446

Model overlays are qualitative adjustments to address the effect of unusually large positive changes in certain economic variables used by our commercial real estate credit loss models. These adjustments are determined based upon minimum reserve ratios for our commercial real estate - owner occupied, commercial real estate - non-owner occupied and commercial real estate - construction loan portfolios.

Office building overlays are qualitative adjustments to address longer-term concerns over the utilization of commercial office space which could impact the long-term performance of some types of office properties within our commercial real estate loan portfolio. These adjustments are determined based upon minimum reserve ratios for loans within our commercial real estate - non-owner occupied and commercial real estate - construction loan portfolios that have risk grades of 8 or worse.

The down-side scenario overlay is a qualitative adjustment for our commercial and industrial loan portfolio to address the significant risk of economic recession as a result of inflation; rising interest rates; labor shortages; disruption in financial markets and global supply chains; further oil price volatility; and the current or anticipated impact of military conflict, including the current war between Russia and Ukraine, terrorism or other geopolitical events. Factors such as these are outside of our control but nonetheless affect customer income levels and could alter anticipated customer behavior, including borrowing, repayment, investment and deposit practices. To determine this qualitative adjustment, we use an alternative, more pessimistic economic scenario to forecast the macroeconomic variables used in our models. As of September 30, 2022, we used the Moody's Analytics August 2022 S3 Alternative Scenario Downside - 90th Percentile (the "August 2022 S3 Scenario"). In modeling expected credit losses using this scenario, we also assume each loan within our modeled loan pools is downgraded by one risk grade level. The qualitative adjustment is based upon the amount by which the alternative scenario modeling results exceed those of the primary scenario used in estimating credit loss expense, adjusted based upon management's assessment of the probability that this more pessimistic economic scenario will occur.

Credit concentration overlays are qualitative adjustments based upon statistical analysis to address relationship exposure concentrations within our loan portfolio. Variations in loan portfolio concentrations over time cause expected credit losses within our existing portfolio to differ from historical loss experience. Given that the allowance for credit losses on loans reflects expected credit losses within our loan portfolio and the fact that these expected credit losses are uncertain as to nature, timing and amount, management believes that segments with higher concentration risk are more likely to experience a high loss event. Due to the fact that a significant portion of our loan portfolio is concentrated in large credit relationships and because of large, concentrated credit losses in recent years, management made the qualitative adjustments detailed in the table above to address the risk associated with such a relationship deteriorating to a loss event.

The consumer overlay is a qualitative adjustment for our consumer and other loan portfolio to address the risk associated with the level of unsecured loans within this portfolio and other risk factors. Unsecured consumer loans have an elevated risk of loss in times of economic stress as these loans lack a secondary source of repayment in the form of hard collateral. This adjustment was determined by analyzing our consumer loan charge-off trends as well as those of the general banking industry. Management deemed it appropriate to consider an additional overlay to the modeled forecasted losses for the unsecured consumer portfolio.

As of December 31, 2021, we provided qualitative adjustments, as detailed in the table below. Further information regarding these qualitative adjustments is provided in our 2021 Form 10-K.

	Q-Factor Adjustment	Model Overlays	Office Building Overlays	Small Business Overlay	COVID-19 Related Overlays	Credit Concentration Overlays	Consumer Overlay	Total
Commercial and industrial	\$ 939	\$ —	\$ —	\$ 3,956	\$ 4,715	\$ 4,999	\$ —	\$ 14,609
Energy	127	—	—	—	—	5,247	—	5,374
Commercial real estate:								
Owner occupied	198	31,806	—	—	7,397	1,320	—	40,721
Non-owner occupied	45	7,762	27,860	—	30,940	731	—	67,338
Construction	383	11,212	5,544	—	2,151	511	—	19,801
Consumer real estate	65	—	—	—	—	—	—	65
Consumer and other	8	—	—	—	—	—	1,432	1,440
Total	<u>\$ 1,765</u>	<u>\$ 50,780</u>	<u>\$ 33,404</u>	<u>\$ 3,956</u>	<u>\$ 45,203</u>	<u>\$ 12,808</u>	<u>\$ 1,432</u>	<u>\$ 149,348</u>

Additional information related to credit loss expense and net (charge-offs) recoveries is presented in the tables below. Also see Note 3 - Loans in the accompanying notes to consolidated financial statements included elsewhere in this report.

	Credit Loss Expense (Benefit)	Net (Charge-Offs) Recoveries	Average Loans	Ratio of Annualized Net (Charge-Offs) Recoveries to Average Loans
Three months ended:				
September 30, 2022				
Commercial and industrial	\$ 10,844	\$ 716	\$ 5,501,675	0.05 %
Energy	2,491	93	971,418	0.04
Paycheck Protection Program	—	—	70,896	—
Commercial real estate	(16,522)	23	8,147,431	—
Consumer real estate	940	241	1,630,568	0.06
Consumer and other	(216)	(3,927)	500,945	(3.11)
Total	\$ (2,463)	\$ (2,854)	\$ 16,822,933	(0.07)
Excluding PPP loans	\$ (2,463)	\$ (2,854)	\$ 16,752,037	(0.07)
September 30, 2021				
Commercial and industrial	\$ (1,020)	\$ (485)	\$ 4,823,302	(0.04)%
Energy	(7,720)	159	968,044	0.07
Paycheck Protection Program	—	—	1,364,945	—
Commercial real estate	4,007	54	7,194,723	—
Consumer real estate	(982)	857	1,353,830	0.25
Consumer and other	2,692	(2,700)	484,490	(2.21)
Total	\$ (3,023)	\$ (2,115)	\$ 16,189,334	(0.05)
Excluding PPP loans	\$ (3,023)	\$ (2,115)	\$ 14,824,389	(0.06)
Nine months ended:				
September 30, 2022				
Commercial and industrial	\$ 29,347	\$ (2,608)	\$ 5,495,705	(0.06)%
Energy	874	760	1,021,927	0.10
Paycheck Protection Program	—	—	171,591	—
Commercial real estate	(44,363)	34	7,932,491	—
Consumer real estate	1,497	(47)	1,516,912	—
Consumer and other	10,250	(10,095)	490,933	(2.75)
Total	\$ (2,395)	\$ (11,956)	\$ 16,629,559	(0.10)
Excluding PPP loans	\$ (2,395)	\$ (11,956)	\$ 16,457,968	(0.10)
September 30, 2021				
Commercial and industrial	\$ (8,886)	\$ (1,191)	\$ 4,778,049	(0.03)%
Energy	(19,048)	(56)	1,051,471	(0.01)
Paycheck Protection Program	—	—	2,276,087	—
Commercial real estate	16,583	579	7,116,541	0.01
Consumer real estate	(3,093)	1,196	1,339,487	0.12
Consumer and other	7,042	(6,153)	472,770	(1.74)
Total	\$ (7,402)	\$ (5,625)	\$ 17,034,405	(0.04)
Excluding PPP loans	\$ (7,402)	\$ (5,625)	\$ 14,758,318	(0.05)

We recorded a net credit loss benefit related to loans totaling \$2.4 million for the nine months ended September 30, 2022 while we recorded a net credit loss benefit totaling \$7.4 million during the same period in 2021. Net credit loss expense/benefit for each portfolio segment reflects the amount needed to adjust the allowance for credit losses allocated to that segment to the level of expected credit losses determined under our allowance methodology after net charge-offs have been recognized.

The net credit loss benefit related to loans during the first nine months of 2022 primarily reflects a decrease in expected credit losses associated with commercial real estate loans, primarily related to a decrease in expected credit losses related to certain pandemic impacted industries and a reduction in the minimum reserve ratio for our commercial real estate - owner occupied portfolio. The impact of this decrease was partly offset by an increase in expected credit losses associated with commercial and industrial loans, primarily related to the down-side scenario overlay discussed above, and increases in modeled losses for our commercial and industrial, energy, commercial real estate and consumer real estate portfolios. The ratio of the

allowance for credit losses on loans to total loans was 1.38% (1.39% excluding PPP loans) at September 30, 2022 compared to 1.52% (1.56% excluding PPP loans) at December 31, 2021. Management believes the recorded amount of the allowance for credit losses on loans is appropriate based upon management's best estimate of current expected credit losses within the existing portfolio of loans. Should any of the factors considered by management in making this estimate change, our estimate of current expected credit losses could also change, which could affect the level of future credit loss expense related to loans.

Allowance for Credit Losses - Off-Balance-Sheet Credit Exposures. The allowance for credit losses on off-balance-sheet credit exposures totaled approximately \$52.7 million and \$50.3 million at September 30, 2022 and December 31, 2021, respectively. The level of the allowance for credit losses on off-balance-sheet credit exposures depends upon the volume of outstanding commitments, underlying risk grades, the expected utilization of available funds and forecasted economic conditions impacting our loan portfolio. Our policies and methodology used to estimate the allowance for credit losses on off-balance-sheet credit exposures are further described in our 2021 Form 10-K. We recognized a net credit loss expense related to off-balance-sheet credit exposures totaling \$2.4 million during the nine months ended September 30, 2022 compared to a net credit loss expense of \$7.5 million during the same period in 2021.

Capital and Liquidity

Capital. Shareholders' equity totaled \$2.8 billion and \$4.4 billion at September 30, 2022 and December 31, 2021, respectively. The decrease was primarily related to the accumulated other comprehensive income/loss component of shareholders' equity which decreased to a net, after-tax, unrealized loss of \$1.5 billion at September 30, 2022 from a net, after-tax unrealized gain of \$347.3 million at December 31, 2021. The change was primarily due to a \$1.9 billion net, after-tax, decrease in the fair value of securities available for sale. Other uses of capital during the nine months ended September 30, 2022 included \$158.3 million of dividends paid on preferred and common stock and \$996 thousand of treasury stock purchases. Sources of capital during the nine months ended September 30, 2022 included net income of \$388.0 million, \$11.8 million in proceeds from stock option exercises and \$8.7 million related to stock-based compensation.

Under the Basel III Capital Rules, we have elected to opt-out of the requirement to include most components of accumulated other comprehensive income in regulatory capital. Accordingly, amounts reported as accumulated other comprehensive income/loss do not increase or reduce regulatory capital and are not included in the calculation of our regulatory capital ratios. In connection with the adoption of ASC 326 on January 1, 2020, we also elected to exclude, for a transitional period, the effects of credit loss accounting under CECL in the calculation of our regulatory capital and regulatory capital ratios. Regulatory agencies for banks and bank holding companies utilize capital guidelines designed to measure capital and take into consideration the risk inherent in both on-balance-sheet and off-balance-sheet items. See Note 7 - Capital and Regulatory Matters in the accompanying notes to consolidated financial statements included elsewhere in this report.

We paid a quarterly dividend of \$0.75, \$0.75 and \$0.87 per common share during the first, second and third quarters of 2022, respectively, and a quarterly dividend of \$0.72, \$0.72 and \$0.75 per common share during the first, second and third quarters of 2021, respectively. These dividend amounts equate to a common stock dividend payout ratio of 40.0% and 41.7% during the first nine months of 2022 and 2021, respectively. Our ability to declare or pay dividends on, or purchase, redeem or otherwise acquire, shares of our capital stock may be impacted by certain restrictions described in Note 7 - Capital and Regulatory Matters in the accompanying notes to consolidated financial statements included elsewhere in this report.

Stock Repurchase Plans. From time to time, our board of directors has authorized stock repurchase plans. In general, stock repurchase plans allow us to proactively manage our capital position and return excess capital to shareholders. Shares purchased under such plans also provide us with shares of common stock necessary to satisfy obligations related to stock compensation awards. On January 26, 2022 our board of directors authorized a \$100.0 million stock repurchase program, allowing us to repurchase shares of our common stock over a one-year period from time to time at various prices in the open market or through private transactions. No shares have been repurchased under this plan or under a prior plan during the reported periods. See Note 7 - Capital and Regulatory Matters in the accompanying notes to consolidated financial statements and Part II, Item 2 - Unregistered Sales of Equity Securities and Use of Proceeds, each included elsewhere in this report.

In August 2022, the Inflation Reduction Act of 2022 (the "IRA") was enacted. Among other things, the IRA imposes a new 1% excise tax on the fair market value of stock repurchased after December 31, 2022 by publicly traded U.S. corporations. With certain exceptions, the value of stock repurchased is determined net of stock issued in the year, including pursuant to compensatory arrangements.

Liquidity. As more fully discussed in our 2021 Form 10-K, our liquidity position is continuously monitored and adjustments are made to the balance between sources and uses of funds as deemed appropriate. Liquidity risk management is an important element in our asset/liability management process. We regularly model liquidity stress scenarios to assess potential liquidity outflows or funding problems resulting from economic disruptions, volatility in the financial markets, unexpected credit events or other significant occurrences deemed problematic by management. These scenarios are incorporated into our contingency funding plan, which provides the basis for the identification of our liquidity needs. Our principal source of funding has been our customer deposits, supplemented by our short-term and long-term borrowings as well as maturities of securities and loan amortization. As of September 30, 2022, we had approximately \$12.8 billion held in an interest-bearing account at the Federal Reserve. We also have the ability to borrow funds as a member of the Federal Home Loan Bank (“FHLB”). As of September 30, 2022, based upon available, pledgeable collateral, our total borrowing capacity with the FHLB was approximately \$3.4 billion. Furthermore, at September 30, 2022, we had approximately \$14.4 billion in securities that were unencumbered by a pledge and could be used to support additional borrowings through repurchase agreements or the Federal Reserve discount window, as needed.

Since Cullen/Frost is a holding company and does not conduct operations, its primary sources of liquidity are dividends upstreamed from Frost Bank and borrowings from outside sources. Banking regulations may limit the amount of dividends that may be paid by Frost Bank. See Note 7 - Capital and Regulatory Matters in the accompanying notes to consolidated financial statements included elsewhere in this report regarding such dividends. At September 30, 2022, Cullen/Frost had liquid assets, including cash and resell agreements, totaling \$381.5 million.

Accounting Standards Updates

See Note 17 - Accounting Standards Updates in the accompanying notes to consolidated financial statements included elsewhere in this report for details of recently issued accounting pronouncements and their expected impact on our financial statements.

Item 3. Quantitative and Qualitative Disclosures About Market Risk

The disclosures set forth in this item are qualified by the section captioned “Forward-Looking Statements and Factors that Could Affect Future Results” included in Item 2. Management’s Discussion and Analysis of Financial Condition and Results of Operations of this report and other cautionary statements set forth elsewhere in this report.

Refer to the discussion of market risks included in Item 7A. Quantitative and Qualitative Disclosures About Market Risk in the 2021 Form 10-K. There has been no significant change in the types of market risks we face since December 31, 2021.

We utilize an earnings simulation model as the primary quantitative tool in measuring the amount of interest rate risk associated with changing market rates. The model quantifies the effects of various interest rate scenarios on projected net interest income and net income over the next 12 months. The model measures the impact on net interest income relative to a flat-rate case scenario of hypothetical fluctuations in interest rates over the next 12 months. These simulations incorporate assumptions regarding balance sheet growth and mix, pricing and the repricing and maturity characteristics of the existing and projected balance sheet. The impact of interest rate derivatives, such as interest rate swaps, caps and floors, is also included in the model. Other interest rate-related risks such as prepayment, basis and option risk are also considered.

For modeling purposes, as of September 30, 2022, the model simulations projected that 100 and 200 basis point ratable increases in interest rates would result in positive variances in net interest income of 1.0% and 3.0%, respectively, relative to the flat-rate case over the next 12 months, while 100 and 200 basis point ratable decreases in interest rates would result in a negative variances in net interest income of 1.6% and 5.6%, respectively, relative to the flat-rate case over the next 12 months. For modeling purposes, as of December 31, 2021, the model simulations projected that 100 and 200 basis point ratable increases in interest rates would result in positive variances in net interest income of 2.8% and 7.1%, respectively, relative to the flat-rate case over the next 12 months, while a 25 basis point ratable decrease in interest rates would result in a negative variance in net interest income of 3.0% relative to the flat-rate case over the next 12 months. The likelihood of a decrease in interest rates beyond 25 basis points as of December 31, 2021 was considered remote given prevailing interest rate levels.

We do not currently pay interest on a significant portion of our commercial demand deposits. Any interest rate that would ultimately be paid on these commercial demand deposits would likely depend upon a variety of factors, some of which are beyond our control. Our September 30, 2022 model simulations do not assume any payment of interest on commercial demand deposits (those not already receiving an earnings credit) while our modeling simulations as of December 31, 2021 assumed we would make interest payments on commercial demand deposits (those not already receiving an earnings credit) with such payments assumed to begin in the first quarter of 2022. This pricing structure on commercial demand deposits assumed a deposit pricing beta of 25%. The pricing beta is a measure of how much deposit rates reprice, up or down, given a defined change in market rates. As of September 30, 2022, management believes, based on our experience during the last interest rate cycle, that it is less likely we will pay interest on these deposits as rates increase.

The model simulations as of September 30, 2022 indicate that our projected balance sheet is less asset sensitive in comparison to our balance sheet as of December 31, 2021. The decreased asset sensitivity was partly due to a decrease in the relative proportion of interest-bearing deposits (primarily amounts held in an interest-bearing account at the Federal Reserve) and federal funds sold to projected average interest-earning assets combined with an increase in the relative proportion of fixed-rate taxable securities to projected average interest-earning assets. Interest-bearing deposits and federal funds sold are more immediately impacted by changes in interest rates in comparison to our other categories of earning assets.

As of September 30, 2022, the effects of a 200 basis point increase and a 200 basis point decrease in interest rates on our derivative holdings would not result in a significant variance in our net interest income.

The effects of hypothetical fluctuations in interest rates on our securities classified as “trading” under ASC Topic 320, “Investments—Debt and Equity Securities,” are not significant, and, as such, separate quantitative disclosure is not presented.

Item 4. Controls and Procedures

As of the end of the period covered by this Quarterly Report on Form 10-Q, an evaluation was carried out by management, with the participation of its Chief Executive Officer and Chief Financial Officer, of the effectiveness of our disclosure controls and procedures (as defined in Rule 13a-15(e) under the Securities Exchange Act of 1934). Based upon that evaluation, the Chief Executive Officer and Chief Financial Officer concluded that the disclosure controls and procedures were effective as of the end of the period covered by this report. No change in our internal control over financial reporting (as defined in Rule 13a-15(f) under the Securities Exchange Act of 1934) occurred during the last fiscal quarter that materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

Part II. Other Information**Item 1. Legal Proceedings**

We are subject to various claims and legal actions that have arisen in the course of conducting business. Management does not expect the ultimate disposition of these matters to have a material adverse impact on our financial statements.

Item 1A. Risk Factors

There has been no material change in the risk factors disclosed under Item 1A. of our 2021 Form 10-K.

Item 2. Unregistered Sales of Equity Securities and Use of Proceeds

The following table provides information with respect to purchases we made or were made on our behalf or any “affiliated purchaser” (as defined in Rule 10b-18(a)(3) under the Securities Exchange Act of 1934), of our common stock during the three months ended September 30, 2022. Dollar amounts in thousands.

Period	Total Number of Shares Purchased	Average Price Paid Per Share	Total Number of Shares Purchased as Part of Publicly Announced Plan	Maximum Number of Shares (or Approximate Dollar Value) That May Yet Be Purchased Under the Plan at the End of the Period
July 1, 2022 to July 31, 2022	—	\$ —	—	\$ 100,000
August 1, 2022 to August 31, 2022	—	—	—	100,000
September 1, 2022 to September 30, 2022	—	—	—	100,000
Total	—		—	

Item 3. Defaults Upon Senior Securities

None.

Item 4. Mine Safety Disclosures

None.

Item 5. Other Information

None.

Item 6. Exhibits

(a) Exhibits

Exhibit Number	Description
31.1	Rule 13a-14(a) Certification of the Corporation's Chief Executive Officer
31.2	Rule 13a-14(a) Certification of the Corporation's Chief Financial Officer
32.1 ⁽¹⁾	Section 1350 Certification of the Corporation's Chief Executive Officer
32.2 ⁽¹⁾	Section 1350 Certification of the Corporation's Chief Financial Officer
101.INS ⁽²⁾	Inline XBRL Instance Document
101.SCH	Inline XBRL Taxonomy Extension Schema Document
101.CAL	Inline XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF	Inline XBRL Taxonomy Extension Definition Linkbase Document
101.LAB	InlineXBRL Taxonomy Extension Label Linkbase Document
101.PRE	Inline XBRL Taxonomy Extension Presentation Linkbase Document
104 ⁽³⁾	Cover Page Interactive Data File

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- (1) This exhibit shall not be deemed “filed” for purposes of Section 18 of the Securities Exchange Act of 1934, or otherwise subject to the liability of that section, and shall not be deemed to be incorporated by reference into any filing under the Securities Act of 1933 or the Securities Exchange Act of 1934.
- (2) The instance document does not appear in the interactive data file because its XBRL tags are embedded within the Inline XBRL document.
- (3) Formatted as Inline XBRL and contained within the Inline XBRL Instance Document in Exhibit 101.

Signatures

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

Cullen/Frost Bankers, Inc.
(Registrant)

Date: October 27, 2022

By: /s/ Jerry Salinas
Jerry Salinas
Group Executive Vice President
and Chief Financial Officer
(Duly Authorized Officer, Principal Financial
Officer and Principal Accounting Officer)

**Rule 13a-14(a) Certification
of the Corporation's Chief Executive Officer**

I, Phillip D. Green, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Cullen/Frost Bankers, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of registrant's board of directors (or persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

October 27, 2022

/s/ Phillip D. Green

Phillip D. Green
Chief Executive Officer

**Rule 13a-14(a) Certification
of the Corporation's Chief Financial Officer**

I, Jerry Salinas, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Cullen/Frost Bankers, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of registrant's board of directors (or persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

October 27, 2022

/s/ Jerry Salinas

Jerry Salinas
Group Executive Vice President and Chief Financial Officer

**Section 1350 Certification of the
Corporation's Chief Executive Officer**

Pursuant to Subsections (a) and (b) of Section 1350 of Chapter 63 of Title 18 of the United States Code in accordance with Section 906 of the Sarbanes-Oxley Act of 2002, the undersigned, Phillip D. Green, Chief Executive Officer, of Cullen/Frost Bankers, Inc. (the "Corporation"), hereby certifies, to his knowledge, that the Corporation's Quarterly Report on Form 10-Q for the quarter ended September 30, 2022 (the "Report") fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, and that the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Corporation.

/s/ Phillip D. Green

Phillip D. Green

October 27, 2022

The forgoing certification is being furnished solely pursuant to Subsections (a) and (b) of Section 1350 of Chapter 63 of Title 18 of the United States Code in accordance with Section 906 of the Sarbanes-Oxley Act of 2002 and shall not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, or otherwise subject to the liability of that section, and shall not be deemed to be incorporated by reference into any filing under the Securities Act of 1933 or the Securities Exchange Act of 1934.

**Section 1350 Certification of the
Corporation's Chief Financial Officer**

Pursuant to Subsections (a) and (b) of Section 1350 of Chapter 63 of Title 18 of the United States Code in accordance with Section 906 of the Sarbanes-Oxley Act of 2002, the undersigned, Jerry Salinas, Chief Financial Officer, of Cullen/Frost Bankers, Inc. (the "Corporation"), hereby certifies, to his knowledge, that the Corporation's Quarterly Report on Form 10-Q for the quarter ended September 30, 2022 (the "Report") fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, and that the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Corporation.

/s/ Jerry Salinas

Jerry Salinas

October 27, 2022

The forgoing certification is being furnished solely pursuant to Subsections (a) and (b) of Section 1350 of Chapter 63 of Title 18 of the United States Code in accordance with Section 906 of the Sarbanes-Oxley Act of 2002 and shall not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, or otherwise subject to the liability of that section, and shall not be deemed to be incorporated by reference into any filing under the Securities Act of 1933 or the Securities Exchange Act of 1934.