

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

FORM 10-K

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(D) OF THE SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended December 31, 2022

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(D) OF THE SECURITIES EXCHANGE ACT OF 1934

Commission File Number 000-20288

COLUMBIA BANKING SYSTEM, INC.

(Exact name of registrant as specified in its charter)

Washington
(State or other jurisdiction of
incorporation or organization)

91-1422237
(I.R.S. Employer
Identification Number)

1301 A Street
Tacoma, Washington 98402-2156
(Address of principal executive offices and zip code)
(253) 305-1900
(Registrant's telephone number, including area code)

Common Stock, No Par Value
(Title of each class)

Securities Registered Pursuant to Section 12(b) of the Act:
COLB
(Trading symbol)

The Nasdaq Stock Market LLC
(Name of each exchange on which registered)

Securities Registered Pursuant to Section 12(g) of the Act: None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes No

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes No

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, a smaller reporting company, or emerging growth company. See 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	<input checked="" type="checkbox"/>	Accelerated filer	<input type="checkbox"/>
Non-accelerated filer	<input type="checkbox"/>	Smaller reporting company	<input type="checkbox"/>
		Emerging growth company	<input type="checkbox"/>

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 has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report.

If securities are registered pursuant to Section 12(b) of the Act, indicate by check mark whether the financial statements of the registrant included in the filing reflect the correction of an error to previously issued financial statements.

Indicate by check mark whether any of those error corrections are restatements that required a recovery analysis of incentive-based compensation received by any of the registrant's executive officers during the relevant recovery period pursuant to §240.10D-1(b).

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

The aggregate market value of Common Stock held by non-affiliates of the registrant at June 30, 2022 was \$2,239,965,870 based on the closing sale price of the Common Stock on that date.

The number of shares of registrant's Common Stock outstanding at January 31, 2023 was 78,677,504.

DOCUMENTS INCORPORATED BY REFERENCE:

Portions of the Registrant's definitive 2023 Annual Meeting Proxy Statement.

Part III

COLUMBIA BANKING SYSTEM, INC.
FORM 10-K ANNUAL REPORT
DECEMBER 31, 2022

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Glossary of Acronyms, Abbreviations and Terms

The acronyms, abbreviations and terms listed below are used in various sections of the Form 10-K, including “Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations” and “Item 8. Financial Statements and Supplementary Data.”

401(k) Plan	401(k) and Profit Sharing Plan	FHLB	Federal Home Loan Bank of Des Moines
ACH	Automated Clearing House	FINRA/SIPC	Financial Industry Regulatory Authority/Securities Investor Protection Corporation
ACL	Allowance for Credit Losses	FRB	Federal Reserve Bank
AFS	Available for Sale	GAAP	Generally Accepted Accounting Principles
ASC	Accounting Standards Codification	GDP	Gross Domestic Product
ASU	Accounting Standards Update	HTM	Held to maturity
ATM	Automated Teller Machine	IDI	Insured Depository Institutions
Bank of Commerce	Bank of Commerce Holdings	Interstate Act	Riegle-Neal Interstate Banking and Branching Efficiency Act of 1994
B&O	Business and Occupation	IRA	Individual Retirement Account
Basel III	A comprehensive capital framework and rules for U.S. banking organizations approved by the FRB and the FDIC in 2013	IRS	Internal Revenue Service
Basel Committee	Basel Committee on Banking Supervision	KBW	Keefe, Bruyette & Woods
BHCA	Bank Holding Company Act of 1956	LGBTQIA+	Lesbian, gay, bisexual, transgender, queer, intersex, asexual, plus
BOLI	Bank Owned Life Insurance	LIBOR	London Interbank Offering Rate
BSA	Bank Secrecy Act	LLC	Limited Liability Company
Capital Rules	Risk-based capital standards currently applicable to the Company and the Bank	N/A	Not applicable
CARES Act	Coronavirus Aid, Relief, and Economic Security Act	NASDAQ	The Nasdaq Stock Market
CCPA	California Consumer Protection Act of 2018	NOL	Net Operating Loss
CPRA	California Privacy Rights Act	OCC	Office of the Comptroller of the Currency
CDI	Core Deposit Intangible	OPPO	Other Personal Property Owned
CECL	Current Expected Credit Loss	OREO	Other Real Estate Owned
CEO	Chief Executive Officer	Pacific Continental	Pacific Continental Corporation
CET1	Common Equity Tier 1	Patriot Act	Includes 2006 amendments to the Uniting and Strengthening America by Providing Appropriate Tools Required to Intercept and Obstruct Terrorism Act of 2001 which was intended to combat terrorism.
CFO	Chief Financial Officer	PCD	Purchased Credit Deteriorated
CFPB	Consumer Financial Protection Bureau	PPP	Paycheck Protection Program
COSO	Committee of Sponsoring Organizations of the Treadway Commission	PPPLF	Paycheck Protection Program Liquidity Facility
COVID-19	Novel Coronavirus	RSA	Restricted Stock Award
CRA	Community Reinvestment Act of 1977	RSU	Restricted Stock Unit
DIF	Deposit Insurance Fund	SBA	Small Business Administration
DCF	Discounted Cash Flow	SEC	Securities and Exchange Commission
Dodd-Frank Act	Dodd-Frank Wall Street Reform and Consumer Protection Act	SERP	Supplemental Executive Retirement Plan
EPS	Earnings Per Share	SOFR	Secured Overnight Financing Rate
ESP Plan	Employee Stock Purchase Plan	SOX	Sarbanes-Oxley Act of 2002
FASB	Financial Accounting Standards Board	Umpqua	Umpqua Holdings Corporation
FDIA	Federal Deposit Insurance Act	Unit Plans	Supplemental compensation arrangements
FDIC	Federal Deposit Insurance Corporation	TDR	Troubled Debt Restructuring
Federal Reserve	Board of Governors of the Federal Reserve System		

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This annual report on Form 10-K may contain forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Forward-looking statements include, but are not limited to, statements about our plans, objectives, expectations and intentions that are not historical facts, and statements identified by words such as “expects,” “anticipates,” “intends,” “plans,” “believes,” “should,” “projects,” “seeks,” “estimates” or the negative version of those words or other comparable words or phrases of a future or forward-looking nature. Forward-looking statements are based on current beliefs and expectations of management and are inherently subject to significant business, economic and competitive uncertainties and contingencies, many of which are beyond our control. In addition, forward-looking statements are subject to assumptions with respect to future business strategies and decisions that are subject to change. In addition to the factors set forth in the sections titled “Risk Factors,” “Business” and “Management’s Discussion and Analysis of Financial Condition and Results of Operations” in this Form 10-K, the following factors, among others, could cause actual results to differ materially from the anticipated results expressed or implied by forward-looking statements:

- national and global economic conditions could be less favorable than expected or could have a more direct and pronounced effect on us than expected and adversely affect our ability to continue internal growth and maintain the quality of our earning assets;
- the markets where we operate and make loans could face challenges;
- the risks presented by the economy, which could adversely affect credit quality, collateral values, including real estate collateral, investment values, liquidity and loan originations and loan portfolio delinquency rates;
- continued increases in inflation, and the risk that information may differ, possibly materially, from expectations, and actions taken by the Federal Reserve in response to inflation and their potential impact on economic conditions including the possibility of a recession or economic downturn;
- risks related to the proposed merger with Umpqua including, among others, (i) failure to complete the merger with Umpqua or unexpected delays related to the merger or either party’s inability to satisfy closing conditions required to complete the merger, (ii) certain restrictions during the pendency of the proposed transaction with Umpqua that may impact the parties’ ability to pursue certain business opportunities or strategic transactions, (iii) diversion of management’s attention from ongoing business operations and opportunities, (iv) cost savings and any revenue synergies from the merger may not be fully realized or may take longer than anticipated to be realized, (v) the integration of each party’s management, personnel and operations will not be successfully achieved or may be materially delayed or will be more costly or difficult than expected, (vi) deposit attrition, customer or employee loss and/or revenue loss as a result of the proposed merger, and (vii) expenses related to the proposed merger being greater than expected;
- the efficiencies and enhanced financial and operating performance we expect to realize from investments in personnel, acquisitions and infrastructure may not be realized;
- the ability to successfully integrate future acquired entities;
- interest rate changes could significantly reduce net interest income and negatively affect asset yields and funding sources;
- the effect of the discontinuation or replacement of LIBOR;
- results of operations following strategic expansion, including the impact of acquired loans on our earnings, could differ from expectations;
- changes in the scope and cost of FDIC insurance and other coverages;
- changes in accounting policies or procedures as may be required by the FASB or other regulatory agencies could materially affect our financial statements and how we report those results, and expectations and preliminary analysis relating to how such changes will affect our financial results could prove incorrect;
- changes in laws and regulations affecting our businesses, including changes in the enforcement and interpretation of such laws and regulations by applicable governmental and regulatory agencies;
- increased competition among financial institutions and nontraditional providers of financial services;
- continued consolidation in the financial services industry resulting in the creation of larger financial institutions that have greater resources could change the competitive landscape;
- the goodwill we have recorded in connection with acquisitions could become impaired, which may have an adverse impact on our earnings and capital;
- our ability to identify and address cybersecurity risks, including security breaches, “denial of service attacks,” “hacking” and identity theft;
- any material failure or interruption of our information and communications systems;
- inability to keep pace with technological changes;
- our ability to effectively manage credit risk, interest rate risk, market risk, operational risk, legal risk, liquidity risk and regulatory and compliance risk;
- failure to maintain effective internal control over financial reporting or disclosure controls and procedures;
- the effect of geopolitical instability, including wars, conflicts and terrorist attacks;

- our profitability measures could be adversely affected if we are unable to effectively manage our capital;
- the risks from climate change and its potential to disrupt our business and adversely impact the operations and creditworthiness of our customers;
- natural disasters, including earthquakes, tsunamis, flooding, fires and other unexpected events;
- the effect of COVID-19 and other infectious illness outbreaks that may arise in the future, which has created significant impacts and uncertainties in U.S. and global markets;
- changes in governmental policy and regulation, including measures taken in response to economic, business, political and social conditions, including with regard to COVID-19; and
- the effects of any damage to our reputation resulting from developments related to any of the items identified above.

You should take into account that forward-looking statements speak only as of the date of this report. Given the described uncertainties and risks, we cannot guarantee our future performance or results of operations and you should not place undue reliance on forward-looking statements. We undertake no obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise, except as required under federal securities laws.

PART I

ITEM 1. BUSINESS

General

Columbia Banking System, Inc. (referred to in this report as “we,” “our,” “the Company” and “Columbia”) is a registered bank holding company whose wholly-owned banking subsidiary is Columbia State Bank (“Columbia Bank” or “the Bank”). Established in 1993 in Tacoma, Washington, we provide a full range of banking services to small and medium-sized businesses, professionals and individuals throughout Washington, Oregon, Idaho and California. The Company’s subsidiary Columbia Trust Company (“Columbia Trust”) is an Oregon trust company that provides agency, fiduciary and other related trust services with offices in Washington, Oregon and Idaho.

The vast majority of Columbia Bank’s loans and deposits are within its service areas in Washington, Oregon, Idaho and California. Columbia Bank is a Washington state-chartered commercial bank, the deposits of which are insured in whole or in part by the FDIC. Columbia Bank is subject to regulation by the FDIC, the Washington State Department of Financial Institutions Division of Banks, the Oregon Department of Consumer and Business Services Division of Financial Regulation, the Idaho Department of Finance and the California Department of Financial Protection and Innovation. Although Columbia Bank is not a member of the Federal Reserve System, the Federal Reserve has certain supervisory authority over the Company, which can also affect Columbia Bank.

Business Overview

Having celebrated our 29th anniversary in 2022, our goal is to be a leading West Coast regional community banking company while consistently increasing shareholder value. We continue to build on our reputation for exceptional customer satisfaction in order to be recognized as the bank of choice for individual and business customers in all markets we serve.

We have established a network of 152 branches in Washington, Oregon, Idaho and California as of December 31, 2022, from which we intend to grow market share. We operate 67 branches in 21 counties in the state of Washington, 59 branches in 16 counties in Oregon, 15 branches in 10 counties in Idaho and 11 branches in seven counties in California.

Our branch system funds our lending activities and allows us to better serve both retail and business depositors. We believe this approach enables us to expand lending activities while attracting a stable deposit base and enhancing utilization of our full range of products and services. To support our strategy of market penetration and increased profitability, while continuing our personalized banking approach, we have invested in experienced banking and administrative personnel and have incurred related costs in the creation of our branch network. Our branch system and other delivery channels are continually evaluated as an important component of ongoing efforts to improve efficiencies without compromising customer service. We have continued to enhance our digital services by offering a seamless digital experience. Our suite of digital products allows clients to easily manage their finances across all devices, enabling them to bank when, how and where they choose.

Business Strategy

Our business strategy is to provide our customers with the financial sophistication and product depth of a regional banking company while retaining the appeal and service level of a community bank. We continually evaluate our existing business processes while focusing on maintaining asset quality and a diversified loan and deposit portfolio. We continue to build our strong deposit base, expanding total revenue and controlling expenses in an effort to gain operational efficiencies and increase our return on average tangible equity. As a result of our strong commitment to highly personalized, relationship-oriented customer service, our diverse products, our strategic branch locations and the long-standing community presence of our managers and staff, we believe we are well positioned to attract and retain new customers and to increase our market share of loans, deposits, investments and other financial services. We are dedicated to increasing market share in the communities we serve by continuing to leverage our existing branch network and considering business combinations that are consistent with our expansion strategy. We have grown our franchise over the past decade through a combination of acquisitions and organic growth.

Consistent with that strategy, on October 12, 2021, we announced a definitive agreement to combine with Umpqua Holdings Corporation, the parent company of Umpqua Bank, headquartered in Lake Oswego, Oregon, with \$31.85 billion in assets as of December 31, 2022. Following the consummation of our merger with Umpqua, the combined company will have over 300 banking offices throughout Washington, Oregon, Idaho, California and Nevada. Under the terms of the merger agreement, Umpqua shareholders will receive 0.5958 of a share of Columbia stock for each Umpqua share. The combined company will operate under the Columbia Banking System, Inc. name and will trade under the ticker symbol “COLB.” Shareholders of both companies overwhelmingly approved the combination at special shareholder meetings on January 26, 2022, and all regulatory approvals required to complete the merger have been obtained. We expect the transaction to close in the first quarter of 2023.

Products & Services

We place the highest priority on customer service and assist our clients in making informed decisions when selecting from the products and services we offer. We continually review our product and service offerings to ensure that we provide our customers with the tools to meet their financial needs. A more complete listing of all the services and products available to our customers can be found on our website: www.columbiabank.com (information contained on our website is not incorporated by reference into this report). Some of the core products and services we offer include:

<u>Personal Banking</u>	<u>Business Banking</u>	<u>Wealth Management</u>
<ul style="list-style-type: none">• Checking and Savings Accounts• Debit and Credit Cards• Digital Banking• Personal Loans• Home Loans• Foreign Currency	<ul style="list-style-type: none">• Checking and Savings Accounts• Debit and Credit Cards• Business Loans• Professional Banking• Treasury Management• Merchant Card Services• International Banking• Digital Banking	<ul style="list-style-type: none">• Financial Services• Private Banking• Trust and Investment Services

Personal Banking: We offer our personal banking customers an assortment of account products including noninterest and interest-bearing checking, savings, money market and certificate of deposit accounts. Overdraft protection is also available with direct links to the customer’s checking account. Personal banking customers may also choose from a variety of loan products including home mortgages for purchases and refinances, home equity loans and lines of credit, and other personal loans. Eligible personal banking customers with checking accounts are provided a Visa® Debit Card. Further, a variety of Visa® Credit Cards are available to eligible personal banking customers.

In addition, Columbia Connect, our personal digital banking platform, allows our personal banking customers to safely and securely conduct their banking business 24 hours a day, 7 days a week across all of their devices. Columbia Connect has simple navigation and provides access to frequently used features including depositing checks, paying bills, transferring funds, or locating the nearest Columbia Bank branch or ATM.

Business Banking: A variety of checking, savings, interest-bearing money market and certificate of deposit accounts are offered to business banking customers to satisfy all their banking needs. In addition to these core banking products, we provide a breadth of services to support the complete financial needs of small and middle market businesses including Business Debit and Credit Cards, Business Loans, Professional Banking, Treasury Management, Merchant Card Services, and International Banking. We offer several online and mobile banking options to our business customers, allowing them the flexibility to manage business finances from a wide range of locations.

Business Debit and Credit Cards

Our business banking customers are offered a selection of Visa® Cards including the Business Debit Card that works like a check wherever Visa® is accepted. We also partner with Elan Financial Services to offer a variety of Visa® Credit Cards that come with important business features including expense management tools, free employee cards and added security benefits. A specialty community card for nonprofit organizations and municipalities is also available.

Business Loans

We offer a variety of loan products tailored to meet the diverse needs of business banking customers. Business loan products include agricultural loans, asset-based loans, builder and other commercial real estate loans, and loans guaranteed by the SBA. In addition, we offer a suite of Business Edge loans designed for small businesses looking to expand, purchase equipment, or in need of working capital.

Professional Banking

Columbia Professional Bankers are uniquely qualified to help dentists, physicians and veterinarians acquire, build and grow their practice. We offer tailored banking solutions delivered by experienced bankers with the industry knowledge necessary to meet their business’s unique needs.

Treasury Management

Columbia Bank's diversified Treasury Management Programs are tailored to meet specific banking needs of each individual business. We combine technology with integrated operations and local expertise for safe, powerful, flexible solutions. Columbia's clients, of all sizes, choose from a full range of transaction and Treasury Management tools to gain more control over their money. Treasury Management solutions include Business Online and Mobile Banking, Business Bill Pay, ACH collections and payments, Remote Deposit Capture and a variety of tools to protect against fraud and manage excess funds.

Merchant Card Services

We partner with Worldpay to provide businesses with a broad range of payment acceptance solutions to meet their customer's needs. Our Merchant Card Services provides businesses with sophisticated technology, competitive pricing and best-in-class service for their merchant needs.

International Banking

Columbia's International Banking Department offers a range of financial services to help our business customers explore global markets and conduct international trade smoothly and expediently. We are proud to provide small and mid-size businesses with the same caliber of expertise and personalized service that national banks usually limit to large businesses. Our experience with foreign currency exchange, letters of credit, foreign collections and trade finance services can help companies open the door to new markets and suppliers.

Wealth Management: We offer tailored solutions to individuals, families and professional businesses in the areas of financial services and private banking, as well as trust and investment services.

CB Financial Services

CB Financial Services⁽¹⁾ offers a comprehensive array of financial solutions that focuses on wealth management by delivering personalized service and experience through dedicated financial advisors serving various geographical areas.

Financial Services solutions include:

- **Financial Planning:** Asset Allocation, Net Worth Analysis, Estate Planning & Preservation⁽²⁾, Education Funding and Wealth Transfer.
- **Wealth Management:** Professional Asset Management, Tailored Investment Strategies and Professional Money Managers.
- **Insurance Solutions:** Long-Term Care and Life and Disability Insurance.
- **Individual Retirement Solutions:** Retirement Planning, Retirement Income Strategies and Traditional and Roth IRAs.
- **Business Solutions:** Business Retirement Plans, Key Person Insurance, Business Succession Planning and Deferred Compensation Plans.

(1) Securities and insurance products are offered through Cetera Investment Services LLC (doing insurance business in California as CFGIS Insurance Agency), member FINRA/SIPC. Advisory services are offered through Cetera Investment Advisers LLC. Neither firm is affiliated with the financial institution where investment services are offered.

* Investment products are not FDIC insured * No bank guarantee * Not a deposit * Not insured by any federal government agency * May lose value.

(2) For a comprehensive review of your personal situation, always consult a tax or legal advisor. Neither Cetera, nor any of its representatives may give legal or tax advice.

Private Banking

Columbia offers affluent clientele and their businesses complex financial solutions, such as deposit and treasury management services, credit services and wealth management strategies. Each private banker coordinates a relationship team of experienced financial professionals to meet the unique needs of each discerning customer.

Trust and Investment Services: Through our Columbia Trust Company subsidiary, we offer a wide range of high quality fiduciary, investment and administrative trust services, coupled with local, personalized attention to the unique requirements of each trust. Services include Personal Trusts, Special Needs (Supplemental) Trusts, Estate Settlement Services, Investment Agency and Charitable Management Services. A more complete listing of all the services and products available to our customers can be found on Columbia Trust’s website: www.columbiatrustcompany.com (information contained on Columbia Trust’s website is not incorporated by reference into this report).

Competition

Our industry is highly competitive. Several other financial institutions with greater resources compete for banking business in our market areas. These competitors have the ability to make larger loans, finance extensive advertising and promotional campaigns, access international financial markets and allocate their investment assets to regions of highest yield and demand. In addition to competition from other banking institutions, we continue to compete with non-banking companies such as credit unions, brokerage houses, financial technology companies and other financial services companies. We compete for deposits, loans and other financial services by offering our customers similar breadth of products as our larger competitors while delivering a more personalized service level.

Human Capital

At Columbia Bank, we strive to recruit high-performing talent by providing competitive compensation packages. We emphasize a culture of kindness and positivity, encouraging behaviors consistent with our Do Right TOGETHER¹ values, which were rolled out in 2022 in anticipation of our merger with Umpqua. Our values are the qualities we expect all of our associates to embody, every day, in all interactions with other associates, customers, shareholders and in our communities. We seek to create a workplace where employees care about the person next to them, where they root for the client down the street and where they do not just want the best for their community, they also participate in making it happen.

Our continued commitment to employees is demonstrated by Columbia Bank’s being honored as a Best Place to Work across our footprint. Columbia Bank has been named one of Washington’s Best Places to Work by *Puget Sound Business Journal* 13 times. In addition, Columbia has been named a Top Place to Work in Oregon and SW Washington by *The Oregonian* and one of the Best Places to Work in Idaho according to *Populus Marketing Research*.

As of December 31, 2022, the company employed 2,093 full and part-time employees. None of these employees is represented by a collective bargaining agreement. During fiscal year 2022, we hired 665 employees. Our voluntary annual turnover rate was 32.0% in 2022, which compares to 28.8% in 2021.

Diversity, Equity and Inclusion: Columbia Bank promotes diversity and equity and fosters an inclusive work environment that supports our workforce and the communities we serve. Our goal is to recruit the best qualified employees regardless of gender, ethnicity or other protected traits and it is our policy to comply with all laws applicable to discrimination in the workplace. We continue to enhance our diversity, equity and inclusion practices, which are guided by our executive leadership team and overseen by the Board of Director’s Governance and Nominating Committee. We have partnerships with Circa, Bankwork\$ and Hiring our Heroes to engage and attract underrepresented talent populations.

¹ The Do Right TOGETHER values consist of:

T: Build TRUST through credibility.

O: Take OWNERSHIP of personal and company goals.

G: Pursue GROWTH for you, your customers and communities.

E: Practice EMPATHY to increase understanding.

T: Embrace TEAMWORK to improve outcomes.

H: Serve others with HEART.

E: Bring ENJOYMENT to everything you do.

R: Form lasting RELATIONSHIPS with customers and each other.

Since 2019, we have engaged with third party consulting firms to expand our diversity, equity and inclusion practices throughout the bank, which have included training for our board, executive teams, senior management teams and all managers. We have also held multiple executive management listening sessions with employees who identify as people of color, women, members of the LGBTQIA+ community and employees with disabilities. In early 2023, we hired a Director of Diversity, Equity and Inclusion to further expand and deepen our diversity, equity and inclusion program and practices in 2023 and beyond.

Compensation and Benefits: We value our employees and pride ourselves on providing a professional work environment accompanied by comprehensive pay and benefit programs. We are committed to providing flexible and value-added benefits to our employees through a “Total Compensation Philosophy” which includes salary, bonus and equity award opportunities, profit sharing and 401k match funding. We provide a complete benefit suite including a variety of medical and dental plans, health savings plans, flexible spending accounts, life insurance and an employee stock purchase plan that allows all employees the opportunity to purchase company stock at a discount. We respect our employee’s personal time needs offering paid time-off for vacation, illness and life events. If desired, employees also have the option to purchase up to an extra week of vacation each year. In addition, to empower and encourage employees to make a personal difference in the communities where they live and work, Columbia Bank offers up to 40 hours a year of paid volunteer time.

Professional Development & Learning: We strongly encourage and support continuous learning and development, and we invest in all our employees by providing educational opportunities through internal and external sources. These include, but are not limited to, job-specific training, compliance updates, anti-corruption training for all staff including management, safety and security protocols, and information on new product and service offerings. Additionally, we have a robust leadership development and succession-planning program that includes leadership excellence programs through action learning, on-the-job training, and focused individual development plans. We are an industry leader in offering an internal coaching program, provided by our internal International Coaching Federation Professional certified coaches. In response to the impact of COVID-19 that began in 2020, we have continued to leverage virtual training offering robust training both internally and through industry and professional associations.

Workplace Safety & Wellness: Columbia Bank has detailed policies and plans in place to respond to physical threats and related risks in the workplace including, but not limited to, wildfires, earthquakes, flooding and pandemics. While COVID-19 amplified the focus on safety and wellness, Columbia Bank was able to leverage existing policies and resources to support both physical and mental health for all employees. This includes a comprehensive employee assistance program and different channels for speaking with medical professionals such as *98point6*, *Doctor on Demand*, *Talkspace*, *Care Chat* and enhanced access to E-visits, video visits and access to consulting nurses.

With regard to COVID-19, we had a phased, detailed and well-tested pandemic plan in place and began executing the first phase in the first quarter of 2020. This included moving employees capable of working from home to remote work and implementing social distancing and cleaning protocols that adhere to Center for Disease Control recommendations in all of our facilities, as well as complying with individual state restrictions. We continued to follow that plan throughout 2021 and 2022 as new variants emerged, escalating our response at predetermined trigger points.

Available Information

We file annual reports on Form 10-K, quarterly reports on Form 10-Q, periodic reports on Form 8-K, proxy statements and other information with the United States SEC. The public may obtain copies of these reports and any amendments at the SEC’s website: www.sec.gov.

Additionally, reports filed with the SEC can be obtained free of charge through our website at www.columbiabank.com. These reports are made available through our website as soon as reasonably practicable after they are filed electronically with the SEC. We also make available on that website our Code of Ethics for Senior Financial Officers, our Corporate Governance Policy, and the charters for certain committees of our Board of Directors. Any changes to or waiver of our Code of Ethics for Senior Financial Officers will be posted on that website. Information contained on our website is not incorporated by reference into this report.

Supervision and Regulation

The following discussion provides an overview of certain elements of the extensive regulatory framework applicable to the Company and Columbia State Bank, which operates under the name Columbia Bank in Washington, Oregon, Idaho and California. This regulatory framework is primarily designed for the protection of depositors, customers, federal deposit insurance funds and the banking system as a whole, rather than specifically for the protection of shareholders or non-depository creditors. Due to the breadth and growth of this regulatory framework, our costs of compliance continue to increase in order to monitor and satisfy these requirements.

To the extent that this section describes statutory and regulatory provisions, it is qualified by reference to those provisions. These statutes and regulations, as well as related policies, are subject to change by Congress, state legislatures and federal and state regulators. Changes in statutes, regulations or regulatory policies applicable to us, including the interpretation or implementation thereof, cannot be predicted, but may have a material effect on our business, financial condition, or results of operations. Our continued efforts to monitor and comply with new regulatory requirements and developments add to the complexity and cost of our business.

Federal and State Bank Holding Company Regulation

General. The Company is a bank holding company as defined in the BHCA, and is therefore subject to regulation, supervision and examination by the Federal Reserve. In general, the BHCA limits the business of bank holding companies to owning or controlling banks and engaging in other activities closely related to banking. The Company must file reports with and provide the Federal Reserve such additional information as it may require. Under the Financial Services Modernization Act of 1999, a bank holding company may apply to the Federal Reserve to become a financial holding company, and thereby engage (directly or through a subsidiary) in certain expanded activities deemed financial in nature, such as securities and insurance underwriting. While not a financial holding company as of the date of this report, we have elected to be treated as a financial holding company upon consummation of our proposed merger with Umpqua. To maintain its status as a financial holding company, a bank holding company (and all of its depository institution subsidiaries) must each remain “well capitalized” and “well managed”. If a bank holding company fails to meet these regulatory standards, the Federal Reserve could place limitations on its ability to conduct the broader financial activities permissible for financial holding companies or impose limitations or conditions on the conduct or activities of the bank holding company or its affiliates. If the deficiencies persisted, the Federal Reserve could order the bank holding company to divest any subsidiary bank or to cease engaging in any activities permissible for financial holding companies that are not permissible for bank holding companies.

Holding Company Bank Ownership. The BHCA requires every bank holding company to obtain the prior approval of the Federal Reserve before (i) acquiring, directly or indirectly, ownership or control of any voting shares of another bank or bank holding company if, after such acquisition, it would own or control more than 5% of such shares; (ii) acquiring all or substantially all of the assets of another bank or bank holding company; or (iii) merging or consolidating with another bank holding company. In addition, under the Bank Merger Act of 1960, as amended, the prior approval of the FDIC is required for the Bank to merge with another bank or purchase all or substantially all of the assets or assume any of the deposits of another FDIC-insured depository institution. In reviewing applications seeking approval of merger and acquisition transactions, bank regulators consider, among other things, the competitive effect and public benefits of the transactions, the capital position and managerial resources of the combined organization, the risks to the stability of the U.S. banking or financial system, the applicant’s performance record under the CRA, the applicant’s compliance with other laws, including fair housing and consumer protection laws, and the effectiveness of all organizations involved in combating money laundering activities. In addition, failure to implement or maintain adequate compliance programs could cause bank regulators not to approve an acquisition where regulatory approval is required or to prohibit an acquisition even if approval is not required.

In July 2021, the Biden administration issued an executive order on competition, which included provisions relating to bank mergers. These provisions “encourage” the Department of Justice and the federal banking regulators to update guidelines on banking mergers and to provide more scrutiny of bank mergers. We are unable to predict what impact the executive order will have on the timing of or ability to obtain regulatory approvals of future mergers.

Holding Company Control of Nonbanks. With some exceptions, the BHCA also prohibits a bank holding company from acquiring or retaining direct or indirect ownership or control of more than 5% of the voting shares of any company which is not a bank or bank holding company, or from engaging directly or indirectly in activities other than those of banking, managing or controlling banks, or providing services for its subsidiaries. The principal exceptions to these prohibitions involve certain non-bank activities that, by statute or by Federal Reserve regulation or order, have been identified as activities so closely related to the business of banking as to be a proper incident thereto, such as Columbia Trust.

Tying Arrangements. We are prohibited from engaging in certain tie-in arrangements in connection with any extension of credit, sale or lease of property or furnishing of services. For example, with certain exceptions, neither the Company nor its subsidiaries may condition an extension of credit to a customer on either (i) a requirement that the customer obtain additional services provided by us; or (ii) an agreement by the customer to refrain from obtaining other services from a competitor.

Support of Subsidiary Banks. Under Federal Reserve policy and federal law, the Company is required to act as a source of financial and managerial strength to Columbia Bank, including at times when we may not be in a financial position to provide such resources, and it may not be in our, or our shareholders', best interests to do so. This means that the Company is required to commit resources, as necessary, to support Columbia Bank. Any capital loans the Company makes to Columbia Bank are subordinate to deposits and to certain other indebtedness of Columbia Bank.

State Law Restrictions. As a Washington corporation, the Company is subject to certain limitations and restrictions under applicable Washington corporate law. For example, state law restrictions in Washington include limitations and restrictions relating to indemnification of directors, distributions to shareholders, transactions involving directors, officers or interested shareholders, maintenance of books, records and minutes, and observance of certain corporate formalities.

Federal and State Regulation of Columbia Bank

General. The deposits of Columbia Bank, a Washington state-chartered commercial bank with branches in Washington, Oregon, Idaho and California, are insured by the FDIC. As a result, Columbia Bank is subject to supervision and regulation by the Washington Department of Financial Institutions' Division of Banks and the FDIC. In connection with our proposed merger with Umpqua, it is proposed that the Bank will merge with and into Umpqua Bank, following which our bank subsidiary will be subject to supervision and regulation by the Oregon Department of Consumer and Business Services Division of Financial Regulation. These agencies have the authority to prohibit banks from engaging in what they believe constitute unsafe or unsound banking practices. Furthermore, under the FDIA, insurance of deposits may be terminated by the FDIC if the FDIC finds that the insured depository institution has engaged in unsafe and unsound practices, is in an unsafe or unsound condition to continue operations or has violated any applicable law, regulation, rule, order or condition imposed by the FDIC. With respect to branches of Columbia Bank in Oregon, Idaho and California, the Bank is also subject to certain laws and regulations governing its activities in those states.

Consumer Protection. The Bank is subject to a variety of federal and state consumer protection laws and regulations that govern its relationship with consumers, including laws and regulations that impose certain disclosure requirements and regulate the manner in which we take deposits, make and collect loans, and provide other services. Failure to comply with these laws and regulations may subject the Bank to various penalties, including but not limited to, enforcement actions, injunctions, fines, civil monetary penalties, criminal penalties, punitive damages, and the loss of certain contractual rights. As an insured depository institution with assets of \$10 billion or more, the CFPB has primary enforcement and exclusive supervision authority for federal consumer financial laws over the Bank. This includes the right to obtain information about the Bank's activities and compliance systems and procedures and to detect and assess risks to consumers and markets. The CFPB engages in several activities, including (i) investigating consumer complaints about credit cards and mortgages, (ii) launching supervisory programs, (iii) conducting research for and developing mandatory financial product disclosures, and (iv) engaging in consumer financial protection rulemaking. Columbia Bank has established a compliance management system designed to ensure consumer protection.

Community Reinvestment. The CRA requires that, in connection with examinations of financial institutions within their jurisdiction, the Federal Reserve, OCC or the FDIC evaluate the record of the financial institution in meeting the credit needs of its local communities, including low- and moderate-income neighborhoods, consistent with the safe and sound operation of the institution. A bank's community reinvestment record is also considered by the applicable banking agencies in evaluating mergers, acquisitions and applications to open a branch or facility. The Bank's failure to comply with the CRA could, among other things, result in the denial or delay of such transactions. The Bank received a rating of "outstanding" in its most recently completed CRA examination (for the period of April 1, 2017 through May 4, 2020). On May 5, 2022, the Federal Reserve, FDIC and the OCC jointly issued a notice of proposed rulemaking proposing revisions to the agencies' CRA regulations, including with respect to the delineation of assessment areas, the overall evaluation framework and performance standards and metrics, the definition of community development activities, and data collection and reporting. The proposed rule would adjust CRA evaluations based on bank size and type, with many of the proposed changes applying only to banks with over \$2 billion in assets and several applying only to banks with over \$10 billion in assets, such as Columbia Bank. Management will continue to evaluate any changes to CRA regulations.

Anti-Money Laundering, Anti-Terrorism and Sanctions. The BSA requires all financial institutions, including banks, to, among other things, establish a risk-based system of internal controls reasonably designed to prevent money laundering and the financing of terrorism. It includes a variety of recordkeeping and reporting requirements (such as cash and suspicious activity reporting) as well as due diligence/know-your-customer documentation requirements.

The Patriot Act further augments and strengthens the requirements set forth in the BSA. The Patriot Act, in relevant part, (i) prohibits banks from providing correspondent accounts directly to foreign shell banks; (ii) imposes due diligence requirements on banks opening or holding accounts for foreign financial institutions or wealthy foreign individuals; (iii) requires financial institutions to establish an anti-money-laundering compliance program; and (iv) eliminates civil liability for persons who file suspicious activity reports. The Patriot Act also includes provisions providing the government with power to investigate terrorism, including expanded government access to bank account records.

Columbia Bank is also subject to regulation under the International Emergency Economic Powers Act and the Trading with the Enemy Act, as administered by the United States Treasury Department's Office of Foreign Assets Control ("Sanctions Laws"). The Sanctions Laws are intended to restrict transactions with persons, companies, or foreign governments sanctions by U.S. authorities. An institution that fails to meet these standards may be subject to regulatory sanctions, including limitations on growth. Columbia Bank has established compliance programs designed to comply with the BSA, the Patriot Act and applicable Sanctions Laws.

Transactions with Affiliates; Insider Credit Transactions. Transactions between the Bank and its subsidiaries, on the one hand, and the Company or any other subsidiary, on the other hand, are regulated under federal banking law. The Federal Reserve Act imposes quantitative and qualitative requirements and collateral requirements on covered transactions by the Bank with, or for the benefit of, its affiliates. In addition, subsidiary banks of a bank holding company are subject to restrictions on extensions of credit to the holding company or its subsidiaries, on investments in securities of the holding company or its subsidiaries and on the use of their securities as collateral for loans to any borrower. These regulations and restrictions may limit the Company's ability to obtain funds from Columbia Bank for its cash needs, including funds for payment of dividends, interest and operational expenses.

Banks are also subject to certain restrictions imposed by the Federal Reserve Act on extensions of credit to executive officers, directors, principal shareholders or any related interests of such persons. Extensions of credit (i) must be made on substantially the same terms, including interest rates and collateral, and follow credit underwriting procedures that are at least as stringent as those prevailing at the time for comparable transactions with persons not related to the lending bank; and (ii) must not involve more than the normal risk of repayment or present other unfavorable features. Banks are also subject to certain lending limits and restrictions on overdrafts to insiders. A violation of these restrictions may result in the assessment of substantial civil monetary penalties, regulatory enforcement actions, and other regulatory sanctions. The Columbia Bank board has established controls to ensure compliance with regulatory expectations around affiliated transactions.

Regulation of Management. Federal law (i) sets forth circumstances under which officers or directors of a bank may be removed by the institution's federal supervisory agency; (ii) places constraints on lending by a bank to its executive officers, directors, principal shareholders, and their related interests; and (iii) generally prohibits management personnel of a bank from serving as directors or in other management positions of another financial institution whose assets exceed a specified amount or which has an office within a specified geographic area.

Safety and Soundness Standards. Certain non-capital safety and soundness standards are also imposed upon banks. These standards cover internal controls, information systems and internal audit systems, loan documentation, credit underwriting, interest rate exposure, asset growth, compensation, fees and benefits, such other operational and managerial standards as the agency determines to be appropriate, and standards for asset quality, earnings and stock valuation. An institution that fails to meet these standards may be subject to regulatory sanctions, including limitations on growth. Columbia Bank has established policies and risk management activities designed to ensure the safety and soundness of the Bank.

Interstate Banking and Branching

The Interstate Act together with the Dodd-Frank Act relaxed prior interstate branching restrictions under federal law by permitting, subject to regulatory approval, state and federally chartered commercial banks to establish branches in states where the laws permit banks chartered in such states to establish branches. The Interstate Act requires regulators to consult with community organizations before permitting an interstate institution to close a branch in a low-income area. Federal banking agency regulations prohibit banks from using their interstate branches primarily for deposit production and the federal banking agencies have implemented a loan-to-deposit ratio screen to ensure compliance with this prohibition.

Dividends

Columbia is a legal entity separate and distinct from the Bank and its other subsidiaries. As a bank holding company, Columbia is subject to certain restrictions on its ability to pay dividends under applicable banking laws and regulations. Federal bank regulators are authorized to determine under certain circumstances relating to the financial condition of a bank holding company or a bank that the payment of dividends would be an unsafe or unsound practice and to prohibit payment thereof. In particular, federal bank regulators have stated that paying dividends that deplete a banking organization's capital base to an inadequate level would be an unsafe and unsound banking practice and that banking organizations should generally pay dividends only out of current operating earnings. In addition, in the current financial and economic environment, the Federal Reserve has indicated that bank holding companies should carefully review their dividend policy and has discouraged payment ratios that are at maximum allowable levels unless both asset quality and capital are very strong. Federal Reserve policy also provides that a bank holding company should inform the Federal Reserve reasonably in advance of declaring or paying a dividend that exceeds earnings for the period for which the dividend is being paid or that could result in a material adverse change to the bank holding company's capital structure. A significant portion of our income comes from dividends from the Bank, which is also the primary source of our liquidity. In addition to the restrictions discussed above, the Bank is subject to limitations under Washington law regarding the level of dividends that it may pay to the Company (if the proposed merger with Umpqua is completed, the Bank, following its merger with and into Umpqua Bank, will be subject to Oregon limitations instead). Washington law limits a bank's ability to pay dividends that are greater than the bank's retained earnings without approval of the applicable banking agency (under Oregon law, a bank may not pay dividends greater than the bank's unreserved retained earnings, deducting therefrom, to the extent not already charged against earnings or reflected in a reserve, all bad debts, which are debts on which interest is past due and unpaid for at least six months, unless the debt is fully secured and in the process of collection; all other assets charged-off as required by Oregon bank regulators or a state or federal examiner; and all accrued expenses, interest and taxes of the institution).

Regulatory Capital Requirements

The Federal Reserve monitors the capital adequacy of the Company on a consolidated basis, and the FDIC and the Washington Department of Financial Institutions' Division of Banks monitor, and if the proposed merger with Umpqua is completed, the Oregon Department of Consumer and Business Services Division of Financial Regulation will monitor the capital adequacy of the Bank. The Capital Rules are based on the December 2010 final capital framework for strengthening international capital standards, known as Basel III, of the Basel Committee. As of December 31, 2022, we and the Bank met all capital adequacy requirements under the Capital Rules, as described below.

The Capital Rules, among other things (i) include a capital measure called CET1, (ii) specify that Tier 1 capital consists of CET1 and "Additional Tier 1 capital" instruments meeting specified requirements and (iii) define CET1 narrowly by requiring that most deductions/adjustments to regulatory capital measures be made to CET1 and not to the other components of capital.

Under the Capital Rules, the minimum capital ratios are (i) 4.5% CET1 to risk-weighted assets, (ii) 6% Tier 1 capital (that is, CET1 plus Additional Tier 1 capital) to risk-weighted assets and (iii) 8% total capital (that is, Tier 1 capital plus Tier 2 capital) to risk-weighted assets.

The Capital Rules also require an institution to establish a capital conservation buffer of CET1 in an amount above the minimum risk-based capital requirements for "adequately capitalized" institutions equal to 2.5% of total risk-weighted assets. Banking institutions with a ratio of CET1 to risk-weighted assets above the minimum but below the capital conservation buffer will face constraints on dividends, equity repurchases and compensation based on the amount of the shortfall and the institution's "eligible retained income" (that is, the greater of (i) net income for the preceding four quarters, net of distributions and associated tax effects not reflected in net income and (ii) average net income over the preceding four quarters).

The Capital Rules provide for a number of deductions from and adjustments to CET1. These include, for example, the requirement that mortgage servicing rights, certain deferred tax assets and significant investments in non-consolidated financial entities be deducted from CET1 to the extent that any one such category exceeds 10% of CET1 or all such categories in the aggregate exceed 15% of CET1. The Capital Rules also generally preclude certain hybrid securities, such as trust preferred securities, from being counted as Tier 1 capital for most bank holding companies.

In addition, the Company and the Bank are subject to the final rule adopted by the Federal Reserve, OCC and FDIC in July 2019 relating to simplifications of the capital rules applicable to non-advanced approaches banking organizations. These rules became effective for the Company on April 1, 2020 and provide for simplified capital requirements relating to the threshold deductions for mortgage servicing assets, deferred tax assets arising from temporary differences that a banking organization could not realize through net operating loss carry backs, and investments in the capital of unconsolidated financial institutions, as well as the inclusion of minority interests in regulatory capital.

In December 2017, the Basel Committee published standards that it described as the finalization of the Basel III post-crisis regulatory reforms. The standards are commonly referred to as “Basel IV.” Among other things, these standards revise the Basel Committee’s standardized approach for credit risk (including by recalibrating risk weights and introducing new capital requirements for certain “unconditionally cancellable commitments,” such as home equity lines of credit) and provide a new standardized approach for operational risk capital. The Basel framework contemplates that these standards will generally be effective on January 1, 2023, with an aggregate output floor phasing in through January 1, 2028. The federal bank regulators have not yet proposed rules implementing these standards. In July 2020, the Basel Committee finalized further revisions to the framework for credit valuation adjustment risk, which are intended to align that framework with the market risk framework. Under the current U.S. capital rules, operational risk capital requirements and a capital floor apply only to advanced approaches institutions. The impact of Basel IV on the Company and the Bank will depend on the manner in which it is implemented by the federal bank regulators.

The Bank is also subject to the prompt corrective action regulations pursuant to Section 38 of the FDIA. See “Prompt Corrective Action Framework.”

Prompt Corrective Action Framework

The FDIA requires the federal bank regulators to take prompt corrective action in respect of depository institutions that fail to meet specified capital requirements. The FDIA establishes five capital categories (“well-capitalized,” “adequately capitalized,” “undercapitalized,” “significantly undercapitalized” and “critically undercapitalized”), and the federal bank regulators are required to take certain mandatory supervisory actions, and are authorized to take other discretionary actions, with respect to institutions that are undercapitalized, significantly undercapitalized or critically undercapitalized. The severity of these mandatory and discretionary supervisory actions depends upon the capital category in which the institution is placed. Generally, subject to a narrow exception, the FDIA requires the regulator to appoint a receiver or conservator for an institution that is critically undercapitalized.

Under the rules currently in effect, the following table presents the requirements for an insured depository institution to be classified as well-capitalized or adequately capitalized:

“Well-capitalized”

Total capital ratio of at least 10%,
Tier 1 capital ratio of at least 8%,
CET1 ratio of at least 6.5%
Tier 1 leverage ratio of at least 5%, and
Not subject to any order or written directive requiring a specific capital level.

“Adequately capitalized”

Total capital ratio of at least 8%,
Tier 1 capital ratio of at least 6%
CET1 ratio of at least 4.5%, and
Tier 1 leverage ratio of at least 4%.

An institution may be downgraded to, or deemed to be in, a capital category that is lower than indicated by its capital ratios if it is determined to be in an unsafe or unsound condition or if it receives an unsatisfactory examination rating with respect to certain matters. A bank’s capital category is determined solely for the purpose of applying prompt corrective action regulations, and the capital category may not constitute an accurate representation of the bank’s overall financial condition or prospects for other purposes.

As of December 31, 2022, we and the Bank met the capital requirements to be well-capitalized with CET1 capital ratios of 12.87% and 12.93%, respectively, Tier 1 capital ratios of 12.87% and 12.93%, respectively, total capital ratios of 13.98% and 13.97%, respectively, and Tier 1 leverage ratios of 9.34% and 9.47%, respectively.

An institution that is categorized as undercapitalized, significantly undercapitalized or critically undercapitalized is required to submit an acceptable capital restoration plan to its appropriate federal bank regulator. Under the FDIA, in order for the capital restoration plan to be accepted by the appropriate federal banking agency, a bank holding company must guarantee that a subsidiary depository institution will comply with its capital restoration plan, subject to certain limitations. The bank holding company must also provide appropriate assurances of performance. The obligation of a controlling bank holding company under the FDIA to fund a capital restoration plan is limited to the lesser of 5% of an undercapitalized subsidiary's assets or the amount required to meet regulatory capital requirements. An undercapitalized institution is also generally prohibited from increasing its average total assets, making acquisitions and capital distributions, establishing any branches or engaging in any new line of business, except in accordance with an accepted capital restoration plan or with the approval of the FDIC. Institutions that are undercapitalized or significantly undercapitalized and either fail to submit an acceptable capital restoration plan or fail to implement an approved capital restoration plan may be subject to a number of requirements and restrictions, including orders to sell sufficient voting stock to become adequately capitalized, requirements to reduce total assets and cessation of receipt of deposits from correspondent banks. Critically undercapitalized depository institutions failing to submit or implement an acceptable capital restoration plan are subject to appointment of a receiver or conservator.

Brokered Deposits

The FDIA prohibits an insured depository institution from accepting brokered deposits or offering interest rates on any deposits significantly higher than the prevailing rate in the bank's normal market area or nationally (depending upon where the deposits are solicited), unless it is well-capitalized or is adequately capitalized and receives a waiver from the FDIC. A depository institution that is adequately capitalized and accepts brokered deposits under a waiver from the FDIC may not pay an interest rate on any deposit in excess of 75 basis points over certain prevailing market rates.

Regulatory Oversight and Examination

The Federal Reserve conducts periodic inspections of bank holding companies. The supervisory objectives of the inspection program are to ascertain whether the financial strength of the bank holding company is being maintained on an ongoing basis and to determine the effects or consequences of transactions between a holding company or its non-banking subsidiaries and its subsidiary banks.

Banks are subject to periodic examinations by their primary regulators. Bank examinations have evolved from reliance on transaction testing in assessing a bank's condition to a risk-focused approach. These examinations are extensive and cover the entire breadth of operations of the bank. Generally, FDIC safety and soundness examinations for a bank of our size are completed on an annual basis through the execution of a quarterly focal review process. The FDIC and state bank regulatory agencies complete these examinations on a combined schedule.

The CFPB has primary examination and enforcement authority over institutions with assets of \$10 billion or more, including the Bank, with respect to various federal consumer protection laws, and we are subject to continued examination by the FDIC on certain consumer regulations. State authorities are also responsible for monitoring our compliance with all state consumer laws.

The frequency of consumer compliance and CRA examinations is linked to the size of the institution and its compliance and CRA ratings at its most recent examinations. However, the examination authority of the Federal Reserve and the FDIC allows them to examine supervised banks as frequently as deemed necessary based on the condition of the bank or as a result of certain triggering events.

Financial Privacy

Under the Gramm-Leach-Bliley Act of 1999, as amended, a financial institution may not disclose non-public personal information about a consumer to unaffiliated third-parties unless the institution satisfies various disclosure requirements and the consumer has not elected to opt out of the information sharing. The financial institution must provide its customers with a notice of its privacy policies and practices. The Federal Reserve, the FDIC, and other financial regulatory agencies issued regulations implementing notice requirements and restrictions on a financial institution's ability to disclose non-public personal information about consumers to unaffiliated third-parties.

In addition, privacy and data protection are areas of increasing state legislative focus, and several states have recently enacted consumer privacy laws that impose significant compliance obligations with respect to personal information. For example, the Company is subject to the CCPA and its implementing regulations. The CCPA gives consumers the right to request disclosure of information collected about them, and whether that information has been sold or shared with others, the right to request deletion of personal information (subject to certain exceptions), the right to opt out of the sale of the consumer's personal information, and the right not to be discriminated against for exercising these rights. The CCPA contains several exemptions, including an exemption applicable to information that is collected, processed, sold or disclosed pursuant to the Gramm-Leach-Bliley Act of 1999, as amended. In November 2020, voters in the CPRA, a ballot measure that amends and supplements the CCPA by, among other things, expanding certain rights relating to personal information and its use, collection, and disclosure by covered businesses. The key provisions of the CPRA became effective on January 1, 2023, with civil and administrative enforcement of the CPRA beginning July 1, 2023. Similar laws may in the future be adopted by other states where the Company does business. The Company has made and will make operational adjustments in accordance with the requirements of the CCPA and other state privacy laws. Furthermore, privacy and data protection areas are expected to receive further attention at the federal level. The potential effects of state or federal privacy and data protection laws on the Company's business cannot be determined at this time, and will depend both on whether such laws are adopted by states in which the Company does business and/or at the federal level and the requirements imposed by any such laws.

Cybersecurity

The federal banking agencies have established certain expectations with respect to an institution's information security and cybersecurity programs, with an increasing focus on risk management, processes related to information technology and operational resiliency, and the use of third parties in the provision of financial services. In October 2016, the federal banking agencies jointly issued an advance notice of proposed rulemaking on enhanced cybersecurity risk-management and resilience standards that would address five categories of cyber standards which include (i) cyber risk governance, (ii) cyber risk management, (iii) internal dependency management, (iv) external dependency management, and (v) incident response, cyber resilience, and situational awareness. As proposed, these enhanced standards would apply only to depository institutions and depository institution holding companies with total consolidated assets of \$50 billion or more; however, it is possible that if these enhanced standards are implemented, even if the \$50 billion threshold is increased, the Federal Reserve will consider them in connection with the examination and supervision of banks below the \$50 billion threshold. The federal banking agencies have not yet taken further action on these proposed standards. If we complete the pending merger with Umpqua, we will likely have greater than \$50 billion in total consolidated assets and, as a result, would be subject to these enhanced cybersecurity risk-management and resilience standards.

State regulators have also been increasingly active in implementing privacy and cybersecurity standards and regulations. Recently, several states have adopted regulations requiring certain financial institutions to implement cybersecurity programs with detailed requirements, including data encryption requirements. Many states have also recently implemented or modified their data breach notification and data privacy requirements. We expect this trend of state-level cybersecurity regulation to continue, and are continually monitoring developments in the states in which the Company operates.

In February 2018, the SEC published interpretive guidance to assist public companies in preparing disclosures about cybersecurity risks and incidents. These SEC guidelines, and any other regulatory guidance, are in addition to notification and disclosure requirements under state and federal banking law and regulations. In addition, in March 2022, the SEC proposed new rules that would require reporting on Form 8-K of material cybersecurity incidents.

In November 2021, the U.S. federal bank regulatory agencies adopted a rule regarding notification requirements for banking organizations related to significant computer security incidents. Under the final rule, a bank holding company, such as the Company, and an FDIC-supervised insured depository institution, such as the Bank, are required to notify the Federal Reserve or FDIC, respectively, within 36 hours of incidents that have materially disrupted or degraded, or are reasonably likely to materially disrupt or degrade, the banking organization's ability to deliver services to a material portion of its customer base, jeopardize the viability of key operations of the banking organization, or impact the stability of the financial sector.

Corporate Governance and Accounting

SOX addresses, among other things, corporate governance, auditing and accounting, enhanced and timely disclosure of corporate information, and penalties for non-compliance. Generally, SOX (i) requires CEOs and CFOs to certify the accuracy of periodic reports filed with the SEC; (ii) imposes specific and enhanced corporate disclosure requirements; (iii) accelerates the time frame for reporting of insider transactions and periodic disclosures by public companies; (iv) requires companies to adopt and disclose information about corporate governance practices, including whether or not they have adopted a code of ethics for senior financial officers and whether the audit committee includes at least one "audit committee financial expert;" and (v) requires the SEC, based on certain enumerated factors, to regularly and systematically review corporate filings.

Deposit Insurance

The Bank's deposits are insured under the FDIA up to the maximum applicable limits and are subject to deposit insurance assessments designed to tie what banks pay for deposit insurance to the risks they pose. Under the FDIC's assessment system for determining payments to the DIF, large IDIs with more than \$10 billion in assets are assessed under a complex "scorecard" methodology that seeks to capture both the probability that an individual large IDI will fail and the magnitude of the impact on the DIF if such a failure occurs. The assessment base of a large IDI is its total assets less tangible equity.

The Volcker Rule

The Dodd-Frank Act prohibits banks and their affiliates from engaging in proprietary trading and investing in and sponsoring hedge funds and private equity funds. The statutory provision is commonly called the "Volcker Rule." The Volcker Rule does not significantly impact the operations of the Company and the Bank, as we do not have any significant engagement in the businesses prohibited by the Volcker Rule.

Interchange Fees

The Company is subject to rules governing interchange fees, which establish standards for assessing whether the interchange fees that may be charged with respect to certain electronic debit transactions are "reasonable and proportional" to the costs incurred by issuers for processing such transactions.

Interchange fees, or "swipe" fees, are charges that merchants pay to us and other card-issuing banks for processing electronic payment transactions. Under applicable rules, the maximum permissible interchange fee is equal to no more than 21 cents plus 5 basis points of the transaction value for many types of debit interchange transactions. The Federal Reserve also adopted a rule to allow a debit card issuer to recover one cent per transaction for fraud prevention purposes if the issuer complies with certain fraud-related requirements required by the Federal Reserve. 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.

Incentive Compensation

The Dodd-Frank Act requires the federal bank regulators and the SEC to establish joint regulations or guidelines prohibiting incentive-based payment arrangements at specified regulated entities, including us and the Bank, having at least \$1 billion in total assets that encourage inappropriate risks by providing an executive officer, employee, director or principal stockholder with excessive compensation, fees, or benefits or that could lead to material financial loss to the entity. In addition, these regulators must establish regulations or guidelines requiring enhanced disclosure to regulators of incentive-based compensation arrangements.

In June 2010, the Federal Reserve and FDIC issued comprehensive final guidance on incentive compensation policies intended to ensure that the incentive compensation policies of banking organizations do not undermine the safety and soundness of such organizations by encouraging excessive risk-taking. The guidance, which covers all employees that have the ability to materially affect the risk profile of an organization, either individually or as part of a group, is based upon the key principles that a banking organization's incentive compensation arrangements should (i) provide incentives that appropriately balance risk and financial results in a manner that does not encourage employees to expose their organizations to imprudent risk, (ii) be compatible with effective internal controls and risk management and (iii) be supported by strong corporate governance, including active and effective oversight by the organization's board of directors.

During the second quarter of 2016, the U.S. financial regulators, including the Federal Reserve and the SEC, proposed revised rules on incentive-based payment arrangements at specified regulated entities having at least \$1 billion in total assets, but these proposed rules have not been finalized.

The Federal Reserve will review, as part of the regular, risk-focused examination process, the incentive compensation arrangements of banking organizations, such as us, that are not "large, complex banking organizations." These reviews will be tailored to each organization based on the scope and complexity of the organization's activities and the prevalence of incentive compensation arrangements. The findings of the supervisory initiatives will be included in reports of examination. Deficiencies will be incorporated into the organization's supervisory ratings, which can affect the organization's ability to make acquisitions and take other actions. Enforcement actions may be taken against a banking organization if its incentive compensation arrangements or related risk management control or governance processes pose a risk to the organization's safety and soundness and the organization is not taking prompt and effective measures to correct the deficiencies.

In October 2022, the SEC adopted a final rule directing national securities exchanges and associations, including Nasdaq, to require policies mandating the recovery or “clawback” of excess incentive-based compensation earned by a current or former executive officer during the three fiscal years preceding a required accounting restatement, including to correct an error that would result in a material misstatement if the error were corrected in the current period or left uncorrected in the current period. The excess compensation would be based on the amount the executive officer would have received had the incentive-based compensation been determined using the restated financials. The final rule requires the exchanges to propose conforming listing standards by February 26, 2023 and requires the standards to become effective no later than November 28, 2023. Each listed issuer, which includes the Company as a listed issuer on Nasdaq, would then be required to adopt a clawback policy within 60 days after its exchange’s listing standard has become effective. The Company will work to implement these new requirements as the rule becomes effective.

Proposed Legislation

Proposed legislation relating to the banking industry is introduced in almost every legislative session. Certain of such legislation could dramatically affect the regulation of the banking industry. We cannot predict if any such legislation will be adopted or if it is adopted how it would affect the business of Columbia Bank or the Company. Recent history has demonstrated that new legislation or changes to existing laws or regulations usually results in a greater compliance burden and therefore generally increases the cost of doing business.

Effects of Government Monetary Policy

Our earnings and growth are affected not only by general economic conditions, but also by the fiscal and monetary policies of the federal government, particularly the Federal Reserve. The Federal Reserve implements national monetary policy for such purposes as curbing inflation and combating recession, but its open market operations in U.S. government securities, control of the discount rate applicable to borrowings from the Federal Reserve, and establishment of reserve requirements against certain deposits influence the growth of bank loans, investments and deposits and also affect interest rates charged on loans or paid on deposits. The nature and impact of future changes in monetary policies and their impact on us cannot be predicted with certainty.

ITEM 1A. RISK FACTORS

The following is a discussion of what we currently believe are the most significant risks and uncertainties that may affect our business, financial condition and future results.

Risks Relating to our Operations

A failure in or breach of our operational or security systems, or those of our third party service providers, including as a result of cyberattacks, could disrupt our business, result in unintentional disclosure or misuse of confidential or proprietary information, damage our reputation, increase our costs and cause losses.

As a financial institution, our operations rely heavily on the secure processing, storage and transmission of confidential and other information on our computer systems and networks. Any failure, interruption or breach in security or operational integrity of these systems could result in failures or disruptions in our online banking system, customer relationship management, general ledger, deposit and loan servicing and other systems. The security and integrity of our systems are susceptible to a variety of interruptions or information security breaches, including those caused by computer hacking, cyberattacks, electronic fraudulent activity or attempted theft of financial assets. We are not able to anticipate, detect, or implement effective preventative measures against all threats, particularly because the techniques used by cybercriminals change frequently, often are not recognized until launched and can be initiated from a variety of sources. We cannot assure you that we will be able to adequately address all such failures, interruptions or security breaches that may have a material adverse impact on our business, financial condition, results of operations and prospects. While we have certain protective policies and procedures in place, the nature and sophistication of the threats continue to evolve. We may be required to expend significant additional resources in the future to modify and enhance our protective measures.

Due to the complexity and interconnectedness of information technology systems, the process of enhancing our systems can itself create a risk of systems disruptions and security issues. Additionally, we face the risk of operational disruption, failure, termination or capacity constraints of any of the third parties that facilitate our business activities, including exchanges, clearing agents, clearing houses or other financial intermediaries. Such parties can also be the source of an attack on, or breach of, our operational systems. Failures, interruptions or security breaches in our information systems could damage our reputation, result in a loss of customer business, result in a violation of privacy or other laws, or expose us to civil litigation, regulatory fines or losses not covered by insurance, all of which could have a material adverse impact on our business, financial condition, results of operations and prospects. Further, as an investigation into a cyberattack is inherently unpredictable, it may take a significant amount of time for us to fully uncover the scope of and damage related to a cyberattack and develop an effective mitigation plan. During such time, damage related to a cyberattack may continue and communications to the public, customers, regulators, and other stakeholders may not be timely or accurate. Potential new regulations may require us to publicly disclose information about a cyberattack before the incident has been resolved or fully investigated.

The confidential information of our customers (including user names and passwords) can also be jeopardized from the compromise of customers' personal electronic devices or as a result of a data security breach at an unrelated company. Losses due to unauthorized account activity could harm our reputation and may have a material adverse effect on our business, financial condition, results of operations and prospects.

Acquisitions and the integration of acquired businesses subject us to various risks and may not result in all of the benefits anticipated, future acquisitions may be dilutive to current shareholders and future acquisitions may be delayed, impeded or prohibited due to regulatory issues.

We have in the past sought, and expect in the future to continue to seek, to grow our business by acquiring other businesses. As of the date of this report, our proposed combination with Umpqua is pending consummation. Risks specifically associated with this pending merger can be found below under the heading "*Risks Relating to our Pending Merger with Umpqua.*" Our acquisitions, including our recently completed acquisition of Bank of Commerce, may not have the anticipated positive results, including results relating to: correctly assessing the asset quality of the assets being acquired; the total cost of integration including management attention and resources; the time required to complete the integration successfully; the amount of longer-term cost savings; being able to profitably deploy funds acquired in an acquisition; or the overall performance of the combined entity.

In addition, unexpected contingent liabilities can arise from the businesses we acquire. Integration of an acquired business can be complex and costly, sometimes including combining relevant accounting and data processing systems, financial reporting and management and internal controls, as well as managing relevant relationships with employees, clients, suppliers and other business partners. Integration efforts could divert management attention and resources, which could adversely affect these systems, processes or controls and our operations or results.

Acquisitions may also result in business disruptions that cause us to lose customers or cause customers to remove their accounts from us and move their business to competing financial institutions. It is possible that the integration process related to acquisitions could result in the disruption of our ongoing businesses or inconsistencies in standards, controls, procedures and policies that could adversely affect our ability to maintain relationships with clients, customers, depositors and employees. The loss of key employees in connection with an acquisition could adversely affect our ability to successfully conduct our business.

We may engage in additional future acquisitions involving the issuance of additional common stock and/or cash. Any such acquisitions and related issuances of stock may have a dilutive effect on EPS, book value per share or the percentage ownership of current shareholders. The use of cash as consideration in any such acquisitions could impact our capital position and may require us to raise additional capital.

Furthermore, notwithstanding our prior acquisitions, we cannot provide any assurance as to the extent to which we can continue to grow through acquisitions as this will depend on the availability of prospective target opportunities at valuations we find attractive and other factors. Among other things, acquisitions by financial institutions are subject to approval by a variety of federal and state regulatory agencies. Regulatory approvals could be delayed, impeded, restrictively conditioned or denied due to existing or new regulatory issues we have, or may have, with regulatory agencies. In addition, the Northwest is experiencing intensified consolidation in the banking industry, and we face significant competition from numerous other financial services institutions for attractive acquisition candidates, and many of these competitors have greater financial resources than we do.

Our business, financial condition, liquidity and results of operations have been, and may in the future be, adversely affected by the COVID-19 pandemic.

The COVID-19 pandemic has created economic and financial disruptions that have adversely affected, and may in the future adversely affect, our business, financial condition, liquidity and results of operations. The extent to which the COVID-19 pandemic will negatively affect our business, financial condition, liquidity and results of operations will depend on future developments, including the emergence of new variants of COVID-19 and the widespread availability, use and effectiveness of vaccines over the long term and against new variants, which are highly uncertain and cannot be predicted.

While financial markets rebounded from the significant declines that occurred earlier in the pandemic and global economic conditions showed signs of improvement during the second half of 2020 and in 2021, many of the circumstances that arose or became more pronounced after the onset of the COVID-19 pandemic persisted through the beginning of 2022, including (i) muted levels of business activity across many sectors of the economy, weakened consumer confidence and disruptions to the global supply chain; (ii) elevated levels of market volatility; (iii) the federal funds rate and yields on U.S. Treasury securities near zero; (iv) the exacerbation of recent inflationary trends; (v) heightened credit risk with regard to industries that have been most severely impacted by the pandemic; and (vi) higher cybersecurity, information security and operational risks as a result of work-from-home arrangements. Depending on the duration and severity of the COVID-19 pandemic going forward, as well as the effects of the pandemic on consumer and corporate confidence, the conditions noted above could continue for an extended period and other adverse developments may occur or reoccur.

Governmental authorities worldwide have taken increased measures to stabilize the markets and support economic growth. The continued success of these measures is unknown and they may not be sufficient to address future market dislocations or avert severe and prolonged reductions in economic activity, and certain authorities have indicated an intention, or are under pressure to, wind down certain of these measures to counter inflationary trends. We also face an increased risk of client disputes, litigation and governmental and regulatory scrutiny as a result of the effects of the COVID-19 pandemic on economic and market conditions.

The length of the pandemic and the efficacy of the extraordinary measures that have been put in place to address it are unknown. For example, the Omicron variant of COVID-19 has led to a spike in COVID-19 cases across the United States, has led to travel and other disruptions, and certain governmental authorities and other third parties have re-imposed restrictions in order to respond to the rise in cases attributable to the Omicron variant of COVID-19. The U.S. economy, as well as most other major economies, may continue to experience a recession, and we anticipate our businesses would be materially and adversely affected by a prolonged recession in the U.S. and other major markets. Further, the COVID-19 pandemic may also have the effect of heightening many of the other risks described in this “Risk Factors” section or in the “Risk Factors” section of any subsequent Quarterly Report we file on Form 10-Q.

Risks Relating to our Pending Merger with Umpqua

Failure to complete the proposed merger with Umpqua could negatively impact Columbia.

If the merger with Umpqua is not completed for any reason there may be various adverse consequences and Columbia may experience negative reactions from the financial markets and from its customers and employees. For example, Columbia's business may have been impacted adversely by the failure to pursue other beneficial opportunities due to the focus of management on the merger, the benefits from which may not be realized. Additionally, if the merger agreement is terminated, the market price of Columbia's common stock could decline to the extent that current market prices reflect a market assumption that the merger will be beneficial and will be completed. Columbia also could be subject to litigation related to any failure to complete the merger or to proceedings commenced against Columbia to perform its obligations under the merger agreement. If the merger agreement is terminated under certain circumstances, Columbia may be required to pay a termination fee of \$145 million to Umpqua.

Combining Columbia and Umpqua may be more difficult, costly or time-consuming than expected, and Columbia may fail to realize the anticipated benefits of the merger.

The success of the merger will depend, in part, on the ability to realize the anticipated cost savings from combining the businesses of Columbia and Umpqua. To realize the anticipated benefits and cost savings from the merger, Columbia and Umpqua must successfully integrate and combine their businesses in a manner that permits those cost savings to be realized without adversely affecting current revenues and future growth. If Columbia and Umpqua are not able to successfully achieve these objectives, the anticipated benefits of the merger may not be realized fully or at all or may take longer to realize than expected. In addition, the actual cost savings of the merger could be less than anticipated, and integration may result in additional and unforeseen expenses.

An inability to realize the full extent of the anticipated benefits of the merger and the other transactions contemplated by the merger agreement, as well as any delays encountered in the integration process, could have an adverse effect upon the revenues, levels of expenses and operating results of the combined company following the completion of the merger, which may adversely affect the value of the common stock of the combined company following the completion of the merger.

Columbia and Umpqua have operated and, until the completion of the merger, must continue to operate, independently. It is possible that the integration process could result in the loss of key employees, the disruption of each company's ongoing businesses or inconsistencies in standards, controls, procedures and policies that adversely affect the companies' ability to maintain relationships with clients, customers, depositors and employees or to achieve the anticipated benefits and cost savings of the merger. Integration efforts between the companies may also divert management attention and resources. These integration matters could have an adverse effect on Columbia during this transition period and for an undetermined period after completion of the merger on the combined company.

Furthermore, the board of directors and executive leadership of the combined company will consist of former directors and executive officers from each of Columbia and Umpqua. Combining the boards of directors and management teams of each company into a single board and a single management team could require the reconciliation of differing priorities and philosophies.

The combined company may be unable to retain Columbia and/or Umpqua personnel successfully after the merger is completed.

The success of the merger will depend in part on the combined company's ability to retain the talent and dedication of key employees currently employed by Columbia and Umpqua. It is possible that these employees may decide not to remain with Columbia or Umpqua, as applicable, while the merger is pending or with the combined company after the merger is consummated. If Columbia and Umpqua are unable to retain key employees, including management, who are critical to the successful integration and future operations of the companies, Columbia and Umpqua could face disruptions in their operations, loss of existing customers, loss of key information, expertise or know-how and unanticipated additional recruitment costs. In addition, following the merger, if key employees terminate their employment, the combined company's business activities may be adversely affected, and management's attention may be diverted from successfully hiring suitable replacements, all of which may cause the combined company's business to suffer. Columbia and Umpqua also may not be able to locate or retain suitable replacements for any key employees who leave either company.

Columbia will be subject to business uncertainties and contractual restrictions while the merger with Umpqua is pending.

Uncertainty about the effect of the merger on employees and customers may have an adverse effect on Columbia. These uncertainties may impair Columbia's ability to attract, retain and motivate key personnel until the merger is completed, and could cause customers and others that deal with Columbia to seek to change existing business relationships with Columbia. In addition, subject to certain exceptions, Columbia has agreed to operate its business in the ordinary course in all material respects and to refrain from taking certain actions that may adversely affect its ability to consummate the transactions contemplated by the merger agreement on a timely basis without the consent of Umpqua. These restrictions may prevent Columbia from pursuing attractive business opportunities that may arise prior to the completion of the merger.

Columbia has incurred and is expected to incur substantial costs related to the merger and integration.

Columbia has incurred and expects to incur a number of non-recurring costs associated with the merger. These costs include legal, financial advisory, accounting, consulting and other advisory fees, retention, severance and employee benefit-related costs, public company filing fees and other regulatory fees, financial printing and other printing costs, closing, integration and other related costs. Some of these costs are payable by Columbia regardless of whether or not the merger is completed.

The merger agreement between the Company and Umpqua may be terminated in accordance with its terms and the merger may not be completed.

The merger agreement is subject to a number of conditions which must be fulfilled in order to complete the merger. Those conditions include, among other things: (i) approval by each of the Columbia shareholders and the Umpqua shareholders of certain matters relating to the merger at each company's respective special meeting (which approvals were obtained on January 26, 2022); (ii) the receipt of required regulatory approvals, including the approval of the FRB and the FDIC (which approvals were obtained on October 25, 2022 and January 5, 2023, respectively); and (iii) the absence of any order, injunction, decree or other legal restraint preventing the completion of the merger, the bank merger or any of the other transactions contemplated by the merger agreement or making the completion of the merger, the bank merger or any of the other transactions contemplated by the merger agreement illegal. Each party's obligation to complete the merger is also subject to certain additional customary conditions, including (a) subject to applicable materiality standards, the accuracy of the representations and warranties of the other party set forth in the merger agreement, (b) the performance in all material respects by the other party of its obligations under the merger agreement and (c) the receipt by each party of an opinion from its counsel to the effect that the merger will qualify as a reorganization within the meaning of Section 368(a) of the Internal Revenue Code of 1986.

These conditions to the closing may not be fulfilled in a timely manner or at all, and, accordingly, the merger may not be completed. In addition, the parties can mutually decide to terminate the merger agreement at any time, before or after the requisite shareholder approvals, or Umpqua or Columbia may elect to terminate the merger agreement in certain other circumstances.

Our assumptions regarding the fair value of assets acquired could be inaccurate, which could materially and adversely affect our business, financial condition, results of operations, and future prospects.

Management makes various assumptions and judgments about the collectability of acquired loans, including the creditworthiness of borrowers and the value of the real estate and other assets serving as collateral for the repayment of secured loans. If our assumptions are incorrect, significant earnings volatility can occur and credit loss provisions may be needed to respond to different economic conditions or adverse developments in the acquired loan portfolio. Any increase in future loan losses could have a material adverse impact on our business, financial condition, results of operations and prospects.

If the goodwill we have recorded in connection with acquisitions becomes impaired, it could have a material adverse impact on our earnings and shareholders' equity.

Accounting standards require that we account for acquisitions using the acquisition method of accounting. Under acquisition accounting, if the purchase price of an acquired company exceeds the fair value of its net assets, the excess is carried on the acquirer's balance sheet as goodwill. In accordance with GAAP, our goodwill is evaluated for impairment on an annual basis or more frequently if events or circumstances indicate that a potential impairment exists. Such evaluation may be based on a variety of factors, including the quoted price of our common stock, market prices of common stock of other banking organizations, common stock trading multiples, DCF analysis and data from comparable acquisitions. Future evaluations of goodwill may result in impairment and ensuing write-downs, which could have a material adverse impact on our earnings and shareholders' equity.

We may not be able to attract or retain key employees.

Our success depends in significant part on the skills of our management team and our ability to retain, recruit and motivate key officers and employees. We expect our future success to be driven in large part by the relationships maintained with our clients by our executives and other key employees. Leadership changes will occur from time to time, and we cannot predict whether significant resignations or other departures will occur or whether we will be able to recruit additional qualified personnel. Competition for senior executives and skilled personnel in the financial services and banking industry is intense, which means the cost of hiring, incentivizing and retaining skilled personnel may continue to increase. The increase in remote and hybrid work arrangements has also increased competition for skilled personnel, and our current or future approach to in-office or remote-work arrangements may not meet the needs or expectations of current or prospective employees or may not be perceived as favorable compared to arrangements offered by other companies, which could adversely affect our ability to attract and retain skilled and qualified personnel. We need to continue to attract and retain key personnel and to recruit qualified individuals to succeed existing key personnel to ensure the continued growth and successful operation of our business. The unexpected loss of any such employees, or the inability to recruit and retain qualified personnel in the future, could have a material adverse impact on our business, financial condition, results of operations and prospects. In addition, the scope and content of U.S. banking regulators' regulations and policies on incentive compensation, as well as changes to these regulations and policies, could adversely affect our ability to hire, retain and motivate our key employees.

Our ability to sustain or improve upon existing performance is dependent upon our ability to respond to technological change, and we may have fewer resources than some of our competitors to continue to invest in technological improvements.

The financial services industry is undergoing rapid technological changes with frequent introductions of new technology-driven products and services. The effective use of technology increases efficiency and enables financial institutions to better serve customers and to reduce costs. Many of our competitors have substantially greater resources to invest in technological improvements than we do. Our future success will depend, in part, upon our ability to address the needs of our clients by using technology to provide products and services that will satisfy client demands for convenience, as well as to create additional efficiencies in our operations. We may not be able to effectively implement new technology-driven products and services or be successful in marketing these products and services to our customers. In addition, the implementation of technological changes and upgrades to maintain current systems and integrate new ones may also cause service interruptions, transaction processing errors and system conversion delays and may cause us to fail to comply with applicable laws. There can be no assurance that we will be able to successfully manage the risks associated with our increased dependency on technology.

Significant legal or regulatory actions could subject us to substantial uninsured liabilities and reputational harm and have a material adverse effect on our business and results of operations.

We are from time to time subject to claims and proceedings related to our operations. Claims and legal actions, including supervisory or enforcement actions by our regulators, or criminal proceedings by prosecutorial authorities, could involve large monetary claims, including civil money penalties or fines imposed by government authorities and significant defense costs. If the proposed merger with Umpqua is completed, the combined company will also be subject to the claims and proceedings related to Umpqua's operations. To mitigate the cost of some of these claims, we maintain insurance coverage in amounts and with deductibles that we believe are appropriate for our operations. However, our insurance coverage does not cover any civil money penalties or fines imposed by government authorities and may not cover all other claims that might be brought against us or continue to be available to us at a reasonable cost. As a result, we may be exposed to substantial uninsured liabilities, which could adversely affect our business, prospects, results of operations and financial condition. Substantial legal liability or significant regulatory action against us could cause significant reputational harm to us and/or could have a material adverse impact on our business, financial condition, results of operations and prospects. Because we primarily serve individuals and businesses located in the Northwest, any negative impact resulting from reputational harm, including any impact on our ability to attract and retain customers and employees, likely would be greater than if our business were more geographically diverse.

We are subject to a variety of operational risks, including reputational risk, legal and compliance risk, and the risk of fraud or theft by employees or outsiders, which may adversely affect our business and results of operations.

We are exposed to many types of operational risks, including reputational risk, legal and compliance risk, the risk of fraud or theft by employees or outsiders, and unauthorized transactions by employees or operational errors, including clerical or record-keeping errors or those resulting from faulty or disabled computer or telecommunications systems. These risks have increased in light of work-from-home arrangements implemented in response to the COVID-19 pandemic.

Our reputation and businesses may be adversely affected by negative publicity or information regarding our businesses and personnel, whether or not accurate or true, that may be posted on social media or other Internet forums or published by news organizations. The speed and pervasiveness with which information can be disseminated through these channels, in particular social media, may magnify risks relating to negative publicity.

If personal, non-public, confidential or proprietary information of customers in our possession were to be mishandled or misused, we could suffer significant regulatory consequences, reputational damage and financial loss. Such mishandling or misuse could include, for example, if such information were erroneously provided to parties who are not permitted to have the information, either by fault of our systems, employees, or counterparties, or where such information is intercepted or otherwise inappropriately taken by third parties.

Because the nature of the financial services business involves a high volume of transactions, certain errors may be repeated or compounded before they are discovered and successfully rectified. Our necessary dependence upon automated systems to record and process transactions and our large transaction volume may further increase the risk that technical flaws or employee tampering or manipulation of those systems will result in losses that are difficult to detect. We are also subject to disruptions of our operating systems arising from events that are wholly or partially beyond our control (for example, computer viruses or electrical or telecommunications outages, natural disasters, pandemics or other damage to property or physical assets) that can give rise to disruption of service to customers and to financial loss or liability. We are further exposed to the risk that our external vendors may be unable to fulfill their contractual obligations (or will be subject to the same risk of fraud or operational errors by their respective employees as we are) and to the risk that our (or our vendors') business continuity and data security systems prove to be inadequate. The occurrence of any of these risks could result in a diminished ability of us to operate our business (for example, by requiring us to expend significant resources to correct the defect), as well as potential liability to clients, reputational damage and regulatory intervention, each of which could have a material adverse impact on our business, financial condition, results of operations and prospects.

We face reputation and business risks due to our interactions with business partners, service providers and other third parties.

We rely on third parties to provide services to us and our clients or otherwise act as partners in our business activities in a variety of ways, including through the provision of key components of our business infrastructure. We expect these third parties to perform services for us, fulfill their obligations to us, accurately inform us of relevant information, and conduct their activities in a manner that reflects positively on our brand and business. Although we manage exposure to such third-party risk through a variety of means, including the performance of due diligence and ongoing monitoring of vendor performance, there can be no assurance these efforts will be effective. Any failure of our business partners, service providers or other third parties to meet their commitments to us or to perform in accordance with our expectations could result in operational disruptions, increased expenditures, regulatory actions in which we may be held responsible for the actions of third parties, damage to our reputation and the loss of clients, which in turn could harm our business and operations, strategic growth objectives and financial performance. Because of the COVID-19 pandemic, many of our counterparties and third-party service providers have been, and may further be, affected by the continuing shift to work-from-home or hybrid-work arrangements, market volatility and other factors that increase their risk of business disruption or that may otherwise affect their ability to perform under the terms of any agreements with us or provide essential services.

Our third-party partners may also rely on their own business partners and service providers in the ordinary course of their business. Although we seek to diversify our exposure to third-party partners in order to increase our resiliency, we are nevertheless exposed to the risk that a disruption or other information technology event at a common service provider to our vendors could impede their ability to provide products or services to us, which in turn could harm our business and operations, strategic growth objectives and financial performance.

Failure to maintain effective internal control over financial reporting or disclosure controls and procedures may adversely affect our business and results of operations.

Management regularly reviews and updates our internal control over financial reporting, disclosure controls and procedures, and corporate governance policies and procedures. We maintain controls and procedures to mitigate risks such as processing system failures or errors and customer or employee fraud, and we maintain insurance coverage for certain of these risks. Any system of controls and procedures, however well designed and operated, is based in part on certain assumptions and provides only reasonable, not absolute, assurances that the objectives of the system are met. Events could occur which are not prevented or detected by our internal controls, are not insured against, or are in excess of our insurance limits. Any failure or circumvention of our controls and procedures, or failure to comply with regulations related to controls and procedures, could have an adverse effect on our business, financial condition, results of operations and prospects.

Interest Rate and Credit Risks

Economic conditions in the market areas we serve may adversely impact our earnings and could increase our credit risk associated with our loan portfolio, the value of our investment portfolio and the availability of deposits.

Substantially all of our loan and deposit customers are businesses and individuals in Washington, Oregon, Idaho and California, and soft economies in these market areas could have a material adverse effect on our business, financial condition, results of operations and prospects. A deterioration in the market areas we serve could result in consequences, including the following, any of which would have an adverse impact, which could be material, on our business, financial condition, results of operations and prospects:

- loan delinquencies may increase;
- problem assets and foreclosures may increase;
- collateral for loans made may decline in value, in turn reducing customers' borrowing power, reducing the value of assets and collateral associated with existing loans;
- certain securities within our investment portfolio could require an allowance for credit losses, requiring a write-down through earnings to fair value, thereby reducing equity;
- low-cost or noninterest-bearing deposits may decrease; and
- demand for our loan and other products and services may decrease.

Concentrations within our loan portfolio could result in increased credit risk in a challenging economy.

While our loan portfolio is diversified across business sectors, it is concentrated in commercial real estate and commercial business loans. These types of loans generally are viewed as having more risk of default than residential real estate loans or certain other types of loans or investments. In fact, the FDIC has issued pronouncements alerting banks of its concern about heavy loan concentrations. Commercial real estate valuations can be significantly affected over relatively short periods of time by changes in business climate, economic conditions, interest rates, and, in many cases, the results of operations of businesses and other occupants of the real property. Emerging and evolving factors such as the shift to work-from-home or hybrid-work arrangements, changing consumer preferences (including online shopping), COVID-19-related restrictions and resulting changes in occupancy rates as a result of these and other trends can also impact such valuations over relatively short periods. Because our loan portfolio contains commercial real estate and commercial business loans with relatively large balances, the deterioration of one or a few of these loans may cause a significant increase in our nonperforming loans. An increase in nonperforming loans could result in a loss of earnings from these loans, an increase in the provision for loan losses, or an increase in loan charge-offs, any of which would have an adverse impact, which could be material, on our business, financial condition, results of operations and prospects.

A large percentage of our loan portfolio is secured by real estate, in particular commercial real estate. Deterioration in the real estate market or other segments of our loan portfolio would lead to additional losses.

As of December 31, 2022, 64% of our total gross loans were secured by real estate. Any renewed downturn in the economies or real estate values in the markets we serve could have a material adverse effect on both borrowers' ability to repay their loans and the value of the real property securing such loans. Our ability to recover on defaulted loans would then be diminished, and we would be more likely to suffer losses on defaulted loans, any or all of which would have an adverse impact, which could be material, on our business, financial condition, results of operations and prospects.

Our allowance may not be adequate to cover future loan losses, which could adversely affect earnings.

We maintain an allowance for credit losses (for periods prior to January 1, 2020, referred to as the allowance for loan and lease losses) in an amount that we believe is adequate to provide for losses inherent in our loan portfolio. While we strive to carefully monitor credit quality and to identify loans that may become nonperforming, at any time there are loans in the portfolio that could result in losses but that have not been identified as nonperforming or potential problem loans. We cannot be sure that we will be able to identify deteriorating loans before they become nonperforming assets or that we will be able to limit losses on those loans that have been identified. Additionally, the process for determining the allowance requires different, subjective and complex judgments about the future impact from current economic conditions that might impair the ability of borrowers to repay their loans. As a result, future significant increases to the allowance may be necessary. Future increases to the allowance may be required based on changes in the composition of the loans comprising the portfolio, deteriorating values in underlying collateral (most of which consists of real estate) and changes in the financial condition of borrowers, such as may result from changes in economic conditions, or as a result of actual future events differing from assumptions used by management in determining the allowance.

Additionally, banking regulators, as an integral part of their supervisory function, periodically review our allowance. These regulatory agencies may require us to increase the allowance. Any increase in the allowance would have an adverse effect, which could be material, on our financial condition and results of operations.

Nonperforming assets take significant time to resolve and could adversely affect our results of operations and financial condition.

Our nonperforming assets adversely affect our net income in various ways. We do not record interest income on nonaccrual loans, thereby adversely affecting our income. Moreover, nonaccrual loans increase our loan administration costs. Assets acquired by foreclosure or similar proceedings are recorded at fair value less estimated costs to sell. The valuation of these foreclosed assets is periodically updated and resulting losses, if any, are charged to earnings in the period in which they are identified. An increase in the level of nonperforming assets also increases our risk profile and may impact the capital levels our regulators believe is appropriate in light of such risks. We utilize various techniques such as loan sales, workouts, and restructurings to manage our problem assets. Decreases in the value of these problem assets, the underlying collateral, or in the borrowers' performance or financial condition would have an adverse impact, which could be material, on our business, financial condition, results of operations and prospects. In addition, the resolution of nonperforming assets requires significant commitments of time from management and staff, which can be detrimental to performance of their other responsibilities. We may experience increases in nonperforming loans in the future.

Fluctuating interest rates could adversely affect our business.

Significant increases in market interest rates on loans, or the perception that an increase may occur, could adversely affect both our ability to originate new loans and our ability to grow. Conversely, decreases in interest rates could result in an acceleration of loan prepayments. An increase in market interest rates could also adversely affect the ability of our floating-rate borrowers to meet their higher payment obligations. If this occurred, it could cause an increase in nonperforming assets and charge-offs, which could adversely affect our business.

Further, our profitability is dependent to a large extent upon net interest income, which is the difference (or "spread") between the interest earned on loans, securities and other interest-earning assets and the interest paid on deposits, borrowings, and other interest-bearing liabilities. Because of the differences in maturities and repricing characteristics of our interest-earning assets and interest-bearing liabilities, changes in interest rates do not produce equivalent changes in interest income earned on interest-earning assets and interest paid on interest-bearing liabilities. Accordingly, fluctuations in interest rates could adversely affect our interest rate spread, and, in turn, our profitability. The Federal Reserve raised benchmark interest rates throughout 2022 and may continue to raise interest rates in response to economic conditions, particularly inflationary pressures. Increases in interest rates, to combat inflation or otherwise, may result in a change in the mix of noninterest and interest-bearing accounts, and may have otherwise have unpredictable effects. For example, increases in interest rates may result in increases in the number of delinquencies, bankruptcies or defaults by clients and more nonperforming assets and net charge-offs, decreases in deposit levels, decreases to the demand for interest rate-based products and services, including loans, and changes to the level of off-balance sheet market-based investments preferred by our clients, each of which may reduce our interest rate spread. Lower rates would continue to constrain our interest rate spread and adversely affect our business forecasts. We are unable to predict changes in interest rates, which are affected by factors beyond our control, including inflation, deflation, recession, unemployment, money supply and other changes in financial markets.

Interest rates on certain of our outstanding financial instruments are subject to change based on regulatory developments, which could adversely affect our revenue, expenses and the value of those financial instruments.

LIBOR and certain other "benchmarks" are the subject of recent national, international and other regulatory guidance and proposals for reform. These reforms may cause such benchmarks to perform differently than in the past or have other consequences which cannot be predicted. The United Kingdom's Financial Conduct Authority and the benchmark administrator for the U.S. Dollar LIBOR have announced that the publication of the most commonly used U.S. Dollar LIBOR settings will cease to be provided or cease to be representative after June 30, 2023. In March 2022, the U.S. Dollar Adjustable Interest Rate (LIBOR) Act (the "LIBOR Act") was enacted, providing a uniform approach for replacing LIBOR as a reference interest rate in new contracts as soon as practicable and in so-called "tough legacy" contracts. Tough legacy contracts are contracts that do not include effective fallback provisions, for example, because they have no provisions for a replacement benchmark. Under the LIBOR Act, references to the most common tenors of LIBOR in these contracts will be replaced automatically to reference a SOFR-based benchmark interest rate identified in Federal Reserve regulations. In December 2022, the Federal Reserve issued final regulations identifying benchmark replacements, based on SOFR, for various types of contracts subject to the LIBOR Act. We may be adversely impacted by the changes involving LIBOR and other benchmark rates as a result of our business activities and our underlying operations, and interest rates on our loans, deposits, derivatives and other financial instruments tied to LIBOR rates, as well as the revenue and expenses associated with those financial instruments, may be adversely affected.

There continues to be substantial uncertainty as to the ultimate effects of LIBOR transition, including with respect to the acceptance and use of SOFR or other alternative benchmark rates. The characteristics of these new rates are not identical to the benchmarks they seek to replace, will not produce the exact economic equivalent as those benchmarks, and may perform differently in a variety of market conditions compared to those benchmarks. For example, during the COVID-19 pandemic period, there has been more volatility in relation to SOFR as compared to LIBOR. The SOFR markets have not yet developed into robust markets, which may present continuing risks as the June 30, 2023 LIBOR cessation date approaches. At this time, it is not possible to predict whether these recommendations and proposals will be broadly accepted, whether they will continue to evolve, and what the effect of their implementation may be on the markets for floating-rate financial instruments.

Our business depends on our ability to successfully manage credit risk.

The operation of our business requires us to manage credit risk. As a lender, we are exposed to the risk that our borrowers will be unable to repay their loans according to their terms, and that the collateral securing repayment of their loans, if any, may not be sufficient to ensure repayment. In addition, there are risks inherent in making any loan, including risks with respect to the period of time over which the loan may be repaid, risks relating to proper loan underwriting, risks resulting from changes in economic and industry conditions and risks inherent in dealing with individual borrowers. In order to successfully manage credit risk, we must, among other things, maintain disciplined and prudent underwriting standards and ensure that our bankers follow those standards. The weakening of these standards for any reason, such as an attempt to attract higher yielding loans, a lack of discipline or diligence by our employees in underwriting and monitoring loans, the inability of our employees to adequately adapt policies and procedures to changes in economic or any other conditions affecting borrowers and the quality of our loan portfolio, may result in loan defaults, foreclosures and additional charge-offs and may necessitate that we increase our ACL, each of which could adversely affect our net income. As a result, our inability to successfully manage credit risk could have a material adverse effect on our business, financial condition, results of operations and prospects.

We may be required, in the future, to recognize a credit loss with respect to investment securities.

Our securities portfolio currently includes securities with unrecognized losses. As of December 31, 2022, gross unrealized losses in our securities portfolio were \$694.3 million. We may continue to observe declines in the fair market value of these securities. Securities issued by certain states and municipalities may come under scrutiny due to concerns about credit quality. Although management believes the credit quality of the Company's state and municipal securities portfolio to be good, there can be no assurance that the credit quality of these securities will not decline in the future. We evaluate the securities portfolio for any securities with an associated credit loss each reporting period, as required by GAAP in the United States. There can be no assurance, however, that future evaluations of the securities portfolio will not require us to recognize credit losses with respect to these and other holdings. For example, it is possible that government-sponsored programs to allow mortgages to be refinanced to lower rates could materially adversely impact the yield on our portfolio of mortgage-backed securities, since a significant portion of our investment portfolio is composed of such securities.

We are exposed to the risk of environmental liabilities in connection with real properties acquired.

During the ordinary course of business, we foreclose on and take title to properties securing certain loans. In doing so, there is a risk that hazardous or toxic substances could be found on these properties. If previously unknown or undisclosed hazardous or toxic substances are discovered, we may be liable for remediation costs, as well as for personal injury and property damage. Environmental laws may require us to incur substantial expenses which may materially reduce the affected property's value or limit our ability to use or sell the affected property. In addition, future laws or more stringent interpretations or enforcement policies with respect to existing laws may increase our exposure to environmental liability. Although we have policies and procedures which require the performance of an environmental review at the time of underwriting a loan secured by real property, and also before initiating any foreclosure action on real property, these reviews may not be sufficient to detect all potential environmental hazards. The remediation costs and any other financial liabilities associated with an environmental hazard could have a material adverse effect on our financial condition and results of operations.

Funding and Liquidity Risks

Our management of capital could adversely affect profitability measures and the market price of our common stock and could dilute the holders of our outstanding common stock.

Our capital ratios are higher than regulatory minimums. We may lower our capital ratios through selective acquisitions that meet our disciplined criteria, share repurchase plans, organic loan growth, investment in securities, or a combination of all four. We continually evaluate opportunities to expand our business through strategic acquisitions. There can be no assurance that we will be able to negotiate future acquisitions on terms acceptable to us.

Conversely, there may be circumstances under which it would be prudent to consider alternatives for raising capital to take advantage of significant acquisition opportunities or in response to changing economic conditions. In addition, we may need to raise additional capital in the future to have sufficient capital resources and liquidity to meet our commitments and fund our business needs and future growth, particularly if the quality of our assets or earnings were to deteriorate significantly. We may not be able to raise additional capital when needed on terms acceptable to us or at all. Our ability to raise additional capital, if needed, will depend on, among other things, conditions in the capital markets at the time, which are outside our control, and our financial performance. Further, if we need to raise capital in the future, we may have to do so when many other financial institutions are also seeking to raise capital and would then have to compete with those institutions for investors. An inability to raise additional capital on acceptable terms when needed could have a material adverse effect on our business, financial condition, results of operations and prospects. In addition, any capital raising alternatives could dilute the holders of our outstanding common stock and may adversely affect the market price of our common stock.

Conditions in the financial markets may limit access to additional funding to meet liquidity needs.

We may need or want to raise additional capital in the future to provide us with sufficient capital resources and liquidity to meet our commitments and business needs, particularly if our asset quality or earnings were to deteriorate significantly. Our ability to raise additional capital will depend on, among other things, conditions in the capital markets at that time, which are outside of our control, and our financial performance. Economic conditions and any loss of confidence in financial institutions generally may increase our cost of funding and limit access to certain customary sources of capital.

There can be no assurance that capital will be available on acceptable terms or at all. Any occurrence that may limit our access to the capital markets, such as a decline in the confidence of equity or debt purchasers, or counterparties participating in capital markets, may adversely affect our capital costs and our ability to raise capital and, potentially, our liquidity. Also, if we need to raise capital in the future, we may have to do so when many other financial institutions are also seeking to raise capital and would have to compete with those institutions for investors. An inability to raise additional capital on acceptable terms when needed could have a materially adverse effect on our business, financial condition and results of operations.

Legal, Accounting and Compliance Risks

We operate in a highly regulated environment and changes to or increases in, or supervisory enforcement of, banking or other laws and regulations or governmental fiscal or monetary policies could adversely affect us.

We are subject to extensive regulation, supervision and examination by federal and state banking authorities. In addition, as a publicly-traded company, we are subject to regulation by the SEC. Any change in applicable regulations or federal, state or local legislation or in policies or interpretations or regulatory approaches to compliance and enforcement, income tax laws or accounting principles could have a substantial impact on us and our operations. Changes in laws and regulations may also increase our expenses by imposing additional fees or taxes or restrictions on our operations. Additional legislation and regulations that could significantly affect our powers, authority and operations may be enacted or adopted in the future, which could have a material adverse effect on our business, financial condition, results of operations and prospects. Failure to appropriately comply with any such laws, regulations or principles could result in sanctions by regulatory agencies or damage to our reputation, all of which could adversely affect our business, financial condition or results of operations. For example, the Dodd-Frank Act was enacted in July 2010. Among other provisions, the legislation (i) created the CFPB with broad powers to regulate consumer financial products such as credit cards and mortgages, (ii) resulted in new capital requirements from federal banking agencies, (iii) placed new limits on electronic debit card interchange fees and (iv) required the SEC and national stock exchanges to adopt significant new corporate governance and executive compensation reforms, some of which have yet to be promulgated. The Dodd-Frank Act and regulations that have been adopted thereunder have increased the overall costs of regulatory compliance, and further regulatory developments whether related to Dodd-Frank or otherwise may lead to additional costs. In addition, the CFPB has broad rulemaking authority and is the principal federal regulatory agency responsible for the supervision and enforcement of a wide range of consumer protection laws for banks with greater than \$10 billion in assets.

If we fail to maintain appropriate levels of capital or liquidity, we could become subject to formal or informal enforcement actions that may impose restrictions on our business, including limiting our lending activities or our ability to expand, requiring us to raise additional capital (which may be dilutive to shareholders) or requiring regulatory approval to pay dividends or otherwise return capital to shareholders. We also face the risk of becoming subject to new or more stringent requirements in connection with the introduction of new regulations or modifications of existing regulations, which could require us to hold more capital or liquidity or have other adverse effects on our business or profitability.

Further, regulators have significant discretion and authority to prevent or remedy unsafe or unsound practices or violations of laws or regulations by financial institutions and holding companies in the performance of their supervisory and enforcement duties. The exercise of regulatory authority may have an adverse impact, which could be material, on our business, financial condition, results of operations and prospects. Additionally, our business is affected significantly by the fiscal and monetary policies of the U.S. federal government and its agencies, including the Federal Reserve.

We cannot accurately predict the full effects of recent legislation or the various other governmental, regulatory, monetary and fiscal initiatives which have been and may be enacted on the financial markets, the Company and the Bank. The terms and costs of these activities, or any worsening of current financial market and economic conditions, could materially and adversely affect our business, financial condition and results of operations, as well as the trading price of our common stock.

Changes in accounting standards could materially impact our financial statements.

From time to time, the FASB and the SEC change the financial accounting and reporting standards that govern the preparation of our financial statements. These changes can materially impact how we record and report our financial condition and results of operations.

Risks Relating to Markets and External Events

National and global economic and other conditions could adversely affect our future results of operations or market price of our stock.

Our business is directly impacted by factors such as economic, political and market conditions, broad trends in industry and finance, changes in government monetary and fiscal policies and inflation, foreign policy, and financial market volatility, all of which are beyond our control. Global economies continue to face significant challenges to achieving normalized economic growth rates. Any renewed deterioration in the economies of the nation as a whole or in our markets would have an adverse effect, which could be material, on our business, financial condition, results of operations and prospects, and could also cause the market price of our stock to decline. If recessionary economic conditions or an economic downturn develop, they would likely have a negative financial impact across the financial services industry, including on us. If these conditions are more severe, the extent of the negative impact on our business and financial performance can increase and be more severe, including the adverse effects listed above and discussed throughout this “Risk Factors” section.

Supply chain constraints, robust demand and labor shortages have led to persistent inflationary pressures throughout the economy. Volatility and uncertainty related to inflation and the effects of inflation, which may lead to increased costs for businesses and consumers and potentially contribute to poor business and economic conditions generally, may also enhance or contribute to some of the risks discussed herein. For example, higher inflation, or volatility and uncertainty related to inflation, could reduce demand for our products, adversely affect the creditworthiness of our borrowers or, result in lower values for our investment securities and other interest-earning assets, and increase expense related to talent acquisition and retention.

Additionally, economic conditions, financial markets and inflationary pressures may be adversely affected by the impact of current or anticipated geopolitical uncertainties, military conflicts, including Russia’s invasion of Ukraine, pandemics, including the COVID-19 pandemic, and global, national and local responses thereto by governmental authorities and other third parties. These unpredictable events could create, increase or prolong economic and financial disruptions and volatility that adversely affects our business, financial condition, capital and results of operations.

Substantial competition in our market areas could adversely affect us.

Commercial banking is a highly competitive business. We compete with other commercial banks, savings and loan associations, credit unions and finance, insurance and other non-depository companies operating in our market areas. We also experience competition, especially for deposits, from Internet-based banking institutions, which have grown rapidly in recent years. We are subject to substantial competition for loans and deposits from other financial institutions. Some of our competitors are not subject to the same degree of regulation and restriction as we are and/or have greater financial resources than we do. Some of our competitors may have liquidity issues, which could impact the pricing of deposits, loans and other financial products in our markets. Our inability to effectively compete in our market areas could have a material adverse impact on our business, financial condition, results of operations and prospects.

Climate change concerns could adversely affect our business, affect client activity levels and damage our reputation.

Concerns over the long-term impacts of climate change have led and will continue to lead to governmental efforts around the world to mitigate those impacts. Consumers and businesses are also changing their behavior and business preferences as a result of these concerns. New governmental regulations or guidance relating to climate change, as well as changes in consumers’ and businesses’ behaviors and business preferences, may affect whether and on what terms and conditions we will

engage in certain activities or offer certain products or services. The governmental and supervisory focus on climate change could also result in our becoming subject to new or heightened regulatory requirements relating to climate change, such as requirements relating to operational resiliency or stress testing for various climate stress scenarios. Any such new or heightened requirements could result in increased regulatory, compliance or other costs or higher capital requirements. In connection with the transition to a low carbon economy, legislative or public policy changes and changes in consumer sentiment could negatively impact the businesses and financial condition of our clients, which may decrease revenues from those clients and increase the credit risk associated with loans and other credit exposures to those clients. Our business, reputation and ability to attract and retain employees may also be harmed if our response to climate change is perceived to be ineffective or insufficient.

Our business is subject to the risks of earthquakes, tsunamis, floods, fires and other natural catastrophic events and other events beyond our control.

A major catastrophe, such as an earthquake, tsunami, flood, fire or other natural disaster, including those caused or exacerbated by climate change, public health issues such as the COVID-19 or other pandemics, or other events beyond our control, could result in a prolonged interruption of our business. For example, our headquarters are located in Tacoma, Washington and we have operations throughout the Northwest, a geographical region that has been or may be affected by earthquakes, wildfires, tsunamis and flooding activity, and in Northern California, a geographical region that has been and continues to be affected by earthquakes and wildfires. Because we primarily serve individuals and businesses in the Northwest and Northern California, a natural disaster likely would have a greater impact on our business, operations and financial condition than if our business were more geographically diverse. The occurrence of any of these natural disasters could negatively impact our performance by disrupting our operations or the operations of our customers, which could have a material adverse effect on our financial condition, results of operations and cash flows.

Risks Relating to Investment in our Stock

There can be no assurance as to the level of dividends we may pay on our common stock.

Holders of our common stock are only entitled to receive such dividends as our board of directors declares out of funds legally available for such payments. Although we have historically declared cash dividends on our common stock, we are not required to do so and there may be circumstances under which we would eliminate our common stock dividend in the future. This could adversely affect the market price of our common stock.

We rely on dividends and other payments from our bank for substantially all of our revenue.

We are a separate and distinct legal entity from the Bank, and we receive substantially all of our operating cash flows from dividends and other payments from the Bank. These dividends and payments are the principal source of funds to pay dividends on our capital stock and interest and principal on any debt we may have. Various federal and state laws and regulations limit the amount of dividends that the Bank may pay to us. Also, our right to participate in a distribution of assets upon a subsidiary's liquidation or reorganization is subject to the prior claims of the subsidiary's creditors. In the event the Bank is unable to pay dividends to us, we may not be able to service debt, pay obligations or pay dividends on our common stock. The inability to receive dividends from the Bank could have a material adverse impact on our business, financial condition, results of operations and prospects.

We have various anti-takeover measures that could impede a takeover.

Our articles of incorporation include certain provisions that could make it more difficult to acquire us by means of a tender offer, a proxy contest, merger or otherwise. These provisions include certain non-monetary factors that our board of directors may consider when evaluating a takeover offer, and a requirement that any "Business Combination" be approved by the affirmative vote of no less than 66 2/3% of the total shares attributable to persons other than a "Control Person." These provisions may have the effect of lengthening the time required for a person to acquire control of us through a tender offer, proxy contest or otherwise, and may deter any potentially hostile offers or other efforts to obtain control of us. This could deprive our shareholders of opportunities to realize a premium for their Columbia common stock, even in circumstances where such action is favored by a majority of our shareholders.

ITEM 1B. UNRESOLVED STAFF COMMENTS

None.

ITEM 2. PROPERTIES

The Company's principal properties include our corporate headquarters which is located at 13th & A Street, Tacoma, Washington, two operations facilities in Pierce County, Washington, one operations facility in Vancouver, Washington, one operations facility in Wilsonville, Oregon, and one operations center in Redding, California.

The Company's branch network as of December 31, 2022 is made up of 152 branches located throughout several Washington, Oregon, Idaho and California counties compared to 153 branches at December 31, 2021. The number of branches per state, as well as whether they are owned or operated under a lease agreement is detailed in the following table:

	Number of Branches	Occupancy Type	
		Owned	Leased
Washington branches	67	49	18
Oregon branches	59	31	28
Idaho branches	15	10	5
California branches	11	9	2
Total Columbia Bank branches	152	99	53

For additional information concerning our premises and equipment and lease obligations, see Notes [8](#), [10](#) and [29](#), respectively, to the Consolidated Financial Statements in "Item 8. Financial Statements and Supplementary Data" of this report.

ITEM 3. LEGAL PROCEEDINGS

For information regarding the Company's legal proceedings, please see [Note 19, to the Consolidated Financial Statements in "Item 8. Financial Statements and Supplementary Data"](#) of this report.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

PART II

ITEM 5. MARKET FOR REGISTRANT’S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES

Common Stock

The Company’s common stock is traded on the Nasdaq Global Select Market of The Nasdaq Stock Market LLC under the symbol “COLB.” At January 31, 2023, the number of shareholders of record was 3,040. This figure does not represent the actual number of beneficial owners of common stock because shares are frequently held in “street name” by securities dealers and others for the benefit of individual owners who may vote the shares.

At December 31, 2022, there were no stock options outstanding. Additional information about stock options and other equity compensation plans is included in [Note 24 to the Consolidated Financial Statements in “Item 8. Financial Statements and Supplementary Data”](#) of this report.

Equity Compensation Plan Information

The following table provides information as of December 31, 2022, regarding securities issued and to be issued under our equity compensation plans that were in effect during 2022:

	Year Ended December 31, 2022		
	Number of Shares to be Issued Upon Exercise of Outstanding Options and Rights	Weighted Average Exercise Price of Outstanding Options and Rights	Number of Shares Remaining Available for Future Issuance Under Equity Compensation Plans (1)
Equity compensation plans approved by security holders	—	\$ —	1,777,175
Equity compensation plans not approved by security holders	—	—	—

(1) Includes 1,691,529 shares available for future issuance under the current stock option and equity compensation plan and 85,646 shares available for purchase under the Employee Stock Purchase Plan as of December 31, 2022.

The following table provides information about repurchases of common stock by the Company during the quarter ended December 31, 2022:

Period	Total Number of Common Shares Purchased (1)	Average Price Paid per Common Share	Total Number of Shares Purchased as Part of Publicly Announced Plan (2)	Maximum Number of Remaining Shares That May Yet Be Purchased Under the Plan (2)
10/1/2022 - 10/31/2022	344	\$ 31.15	—	—
11/1/2022 - 11/30/2022	—	—	—	—
12/1/2022 - 12/31/2022	101	29.86	—	—
	<u>445</u>	<u>30.85</u>	<u>—</u>	<u>—</u>

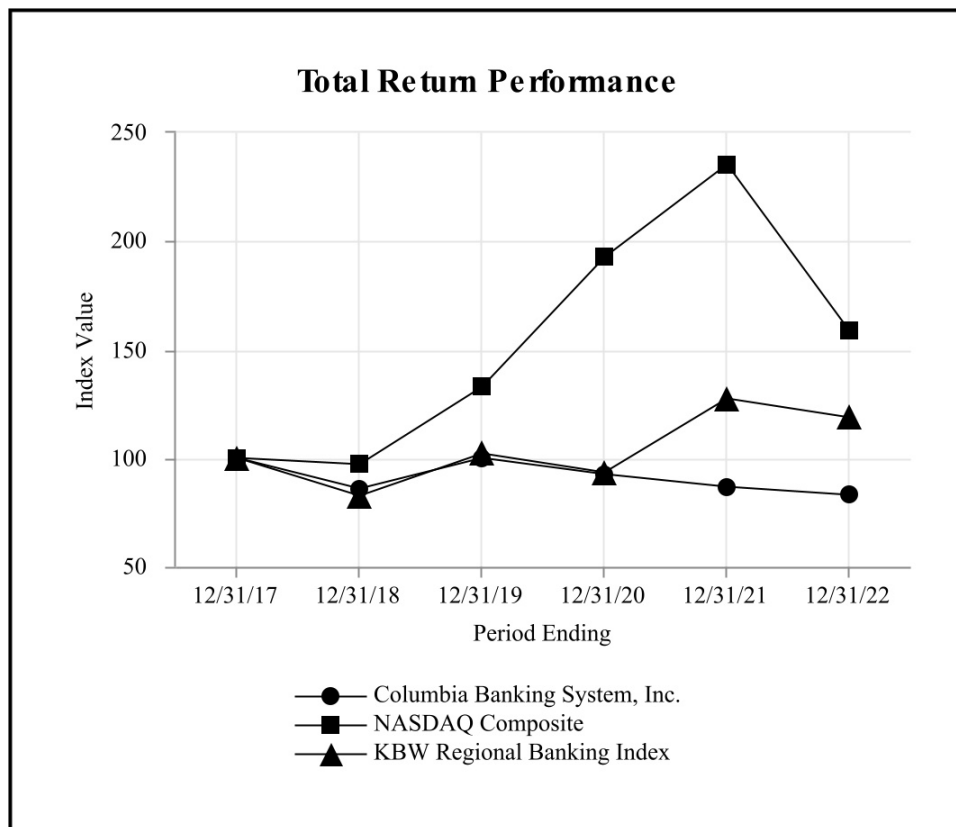
(1) Common shares repurchased by the Company during the quarter consisted of cancellation of 445 shares of common stock to pay the shareholders’ withholding taxes.

(2) The Company does not have a current share repurchase authorization from its Board of Directors.

Five-Year Stock Performance Graph

The following graph shows a five-year comparison of the total return to shareholders of Columbia’s common stock, the NASDAQ Composite Index (which is a broad nationally recognized index of stock performance by companies listed on the Nasdaq Stock Market) and the KBW Regional Banking Index (comprised of 50 banks and bank holding companies headquartered throughout the country, including Columbia).

The definition of total return includes appreciation in market value of the stock as well as the actual cash and stock dividends paid to shareholders. The graph assumes that the value of the investment in Columbia’s common stock, the NASDAQ Composite and the KBW Regional Banking Index was \$100 on December 31, 2017, and that all dividends were reinvested.



Index	Period Ending					
	12/31/2017	12/31/2018	12/31/2019	12/31/2020	12/31/2021	12/31/2022
Columbia Banking System, Inc.	100.00	85.96	100.06	92.43	86.66	82.97
NASDAQ Composite	100.00	97.16	132.81	192.47	235.15	158.65
KBW Regional Banking Index	100.00	82.50	102.15	93.25	127.42	118.59

Source: Bloomberg LP, New York City, NY

ITEM 6. RESERVED

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

This discussion should be read in conjunction with our Consolidated Financial Statements and related notes in "Item 8. Financial Statements and Supplementary Data" of this report. In the following discussion, unless otherwise noted, references to increases or decreases in average balances in items of income and expense for a particular period and balances at a particular date refer to the comparison with corresponding amounts for the period or date for the previous year. For comparison of 2021 to 2020 results and other 2020 information not included herein, refer to "Management Discussion and Analysis of Financial Condition and Results of Operations" under Part II, Item 7 of our 2021 Form 10-K filed with the SEC on February 25, 2022.

Critical Accounting Policies and Estimates

We have established certain accounting policies in preparing our Consolidated Financial Statements that are in accordance with accounting principles generally accepted in the United States. Our significant accounting policies are presented in [Note 1 to the Consolidated Financial Statements in "Item 8. Financial Statements and Supplementary Data"](#) of this report. Certain of these policies require the use of judgments, estimates and economic assumptions which may prove inaccurate or are subject to variation that may significantly affect our reported results of operations and financial position for the periods presented or in future periods. Management believes that the judgments, estimates and economic assumptions used in the preparation of the Consolidated Financial Statements are appropriate given the factual circumstances at the time. We consider the following policies to be most critical in understanding the judgments that are involved in preparing our Consolidated Financial Statements.

Allowance for Credit Losses

The Company's determination of its ACL is a critical accounting estimate. The allowance for credit losses under ASC 326 is an accounting estimate of expected losses over the contractual life of assets carried at amortized cost within the Company's loan portfolio at the balance sheet date. The ASU requires a financial asset (or group of financial assets) measured at amortized cost to be presented at the net amount expected to be collected. The allowance for credit losses is a valuation account that is deducted from the amortized cost basis of the financial asset to present the net carrying value at the amount expected to be collected on the financial asset.

The quantitative allowance is calculated using a DCF approach with a probability of default methodology. The probability of default is an assumption derived from regression models which determine the relationship between historical defaults and certain economic variables. The Company determines a reasonable and supportable forecast and applies that forecast to the model to determine defaults over the forecast period. The forecast includes estimates for key economic variables. While there are several economic variables included, the ones most predominantly used in our models are unemployment rate, consumer price index, real gross domestic product and disposable personal income. Following the forecast period, the economic variables used to calculate the probability of default revert to a historical average. Other assumptions relevant to the discounted cash flow model to derive the quantitative allowance include the loss given default, which is the estimate of loss for a defaulted loan, and the discount rate applied to future cash flows. The model calculates the net present value of each loan using both the contractual and expected cash flows, respectively. The ACL is determined at the end of each quarter and is based on all relevant information and expectations at that time in accordance with GAAP and the ACL guidance. Future changes to the estimate are likely as new information becomes available regarding economic conditions, loan composition and identifiable risk factors. While quantifiable estimates are generated, management judgements regarding credit risks and the inherent imprecision with the models utilized support the overall ACL.

In addition to the quantitative portion of the allowance for credit losses, the Company also considers the effects of the following qualitative factors in its calculation of expected losses in the loan portfolio:

- Economic and business conditions;
- Concentration of credit;
- Lending management and staff;
- Lending policies and procedures;
- Loss and recovery trends;
- Nature and volume of the portfolio;
- Trends in problem loans, loan delinquencies and nonaccrual loans;
- Quality of internal loan review; and
- Other external factors such as the effect of economic stimulus and loan modification programs.

These qualitative factors are based in quantitative factors but also include a high degree of subjectivity and changes in any of the factors could have a significant impact on our calculation of the allowance.

Loans for which repayment is expected to be provided substantially through the operation or sale of collateral are considered collateral-dependent. The allowance for credit losses for collateral-dependent loans is measured on the basis of the fair value of the collateral when foreclosure is probable.

Our ACL at December 31, 2022 was \$158.4 million. Given the dynamic relationships between economic variables, it is difficult to estimate the impact of a change in any one individual variable on the ACL. To illustrate a hypothetical sensitivity, however, we performed an analysis on the unemployment rate economic variable to evaluate the impact of a change in that assumption over the reasonable and supportable forecast period. If the unemployment rate increased by 100 basis points, the quantitative ACL estimate would increase by \$2.9 million and if the unemployment rate were decreased by 100 basis points, the quantitative ACL estimate would decrease by \$2.4 million.

Our allowance policy and the judgments, estimates and economic assumptions involved are described in greater detail in the “Allowance for Credit Losses and Unfunded Commitments and Letters of Credit” section of this discussion and in [Note 1 to the Consolidated Financial Statements in “Item 8. Financial Statements and Supplementary Data”](#) of this report.

Business Combinations

The Company applies the acquisition method of accounting for business combinations. Under the acquisition method, the acquiring entity in a business combination recognizes the assets acquired and liabilities assumed at their acquisition date fair values. Management utilizes prevailing valuation techniques appropriate for the asset or liability being measured in determining these fair values. Any excess of the purchase price over amounts allocated to assets acquired, including identifiable intangible assets, and liabilities assumed is recorded as goodwill. Where amounts allocated to assets acquired and liabilities assumed is greater than the purchase price, a bargain purchase gain is recognized. Merger-related costs are expensed as incurred.

Valuation and Recoverability of Goodwill

Goodwill represented \$823.2 million of our \$20.27 billion in total assets as of December 31, 2022. The Company has a single reporting unit. We review goodwill for impairment annually as of July 31, and also test for impairment between annual tests if an event occurs or circumstances change that would more likely than not reduce the fair value of our reporting unit below its carrying amount. Such events and circumstances may include among others: a significant adverse change in legal factors or in the general business climate; significant decline in our stock price and market capitalization; unanticipated competition; the testing for recoverability of a significant asset group within the reporting unit; and an adverse action or assessment by a regulator. Any adverse change in these factors could have a significant impact on the recoverability of goodwill and could have a material impact on our Consolidated Financial Statements.

Under the Intangibles-Goodwill and Other topic of the FASB ASC, goodwill is not amortized but rather is tested for impairment at the reporting unit level on at least an annual basis. The test for impairment requires the Company to compare the fair value of the reporting unit to its carrying value. If the fair value of the reporting unit is less than its carrying value, the difference is the amount of impairment and goodwill is written down to the fair value of the reporting unit. Prior to completing the impairment test, however, the Company may assess qualitative factors to determine whether it is more likely than not that the fair value of the reporting unit is less than its carrying amount. If such an assessment indicates the fair value of the reporting unit is more likely than not greater than its carrying value, then the impairment test need not be completed.

The accounting estimates related to our goodwill require us to make considerable assumptions about fair value. Our assumptions regarding fair value require significant judgment about economic and industry factors and the growth and earnings prospects of the Bank. Changes in these judgments, either individually or collectively, may have a significant effect on the estimated fair value.

Based on the results of the annual goodwill impairment test, we determined that no goodwill impairment charges were required as our single reporting unit’s fair value exceeded its carrying amount. As of December 31, 2022, we determined there were no events or circumstances which would more likely than not reduce the fair value of our reporting unit below its carrying amount.

Please refer to [Note 9 to the Consolidated Financial Statements in “Item 8. Financial Statements and Supplementary Data”](#) of this report for further discussion.

2022 Financial Summary

Income Statement

- Consolidated net income for 2022 was \$250.2 million, or \$3.20 per diluted common share, compared with net income of \$202.8 million, or \$2.78 per diluted common share in 2021.
 - Net interest income in 2022 increased 18% to \$622.8 million compared to \$527.5 million in 2021. Interest income was \$646.5 million in 2022, compared to \$536.1 million in 2021. The increase was primarily due to higher interest income from loans. Interest expense for 2022 increased \$15.1 million to \$23.6 million compared to \$8.5 million in 2021, due to higher deposit interest expense as a result of higher average rates and increased average balances of FHLB advances.
 - Provision for credit loss on loans was \$2.0 million in 2022, compared to \$4.8 million in 2021. The decrease in provision expense for 2022 reflects improving credit quality, the removal of allowance for credit loss on loans transferred to held for sale in connection with the branch divestitures related to our pending merger with Umpqua, a reduction in COVID-19 related reserve impacts and recoveries outpacing charge-offs.
 - Noninterest income was \$99.1 million in 2022, an increase from \$94.1 million in 2021. The increase in 2022 was primarily due to a \$3.7 million gain from the sale-leaseback of owned real estate, increased deposit account and treasury management fees, card revenue, financial services and trust revenue. This was partially offset by a decrease in mortgage banking revenue.
 - Noninterest expense in 2022 increased \$42.1 million to \$402.4 million compared to \$360.3 million in 2021. The increase was primarily due to higher compensation and employee benefits and occupancy expense mainly driven by our acquisition of Bank of Commerce Holdings in the fourth quarter of 2021. Higher other noninterest expense, data processing and software, regulatory premiums and merger-related expenses also contributed to the increase from the prior period.

Balance Sheet

- Total assets at December 31, 2022 were \$20.27 billion, down 3%, or \$679.5 million from \$20.95 billion at the end of 2021.
- The Company is well-capitalized with a total risk-based capital ratio of 13.98% at December 31, 2022.
 - Cash and cash equivalents at December 31, 2022 were \$291.7 million, down 65% from \$824.7 million at December 31, 2021 due to a decrease in interest-earning deposits with banks.
 - Debt securities at December 31, 2022 were \$6.62 billion, down 18% from \$8.06 billion at December 31, 2021 due to a combination of fair value movement and repayments and maturities.
 - Loans were \$11.61 billion, an increase of \$969.0 million from \$10.64 billion at the end of 2021.
 - The ACL increased to \$158.4 million at December 31, 2022 compared to \$155.6 million at December 31, 2021 due to loan growth. The Company's allowance was 1.36% of total loans, compared with 1.46% at the end of 2021 as a result of improving credit quality.
 - Nonperforming assets totaled \$23.4 million at December 31, 2022, down from \$35.4 million at December 31, 2021. Nonperforming assets to year end assets decreased to 0.11% at December 31, 2022 compared to 0.21% at December 31, 2021.
 - Deposits were \$16.71 billion at December 31, 2022, a decrease of \$1.30 billion compared to \$18.01 billion at December 31, 2021.
 - FHLB advances were \$954.3 million at December 31, 2022, an increase of \$947.0 million compared to December 31, 2021.

Business Combinations

On October 1, 2021, the Company completed its acquisition of Bank of Commerce. The Company acquired approximately \$2.04 billion in assets, including \$1.08 billion in loans measured at fair value and \$1.74 billion in deposits. See [Note 2 to the Consolidated Financial Statements in “Item 8. Financial Statements and Supplementary Data”](#) of this report for further information regarding this acquisition. At December 31, 2022 our merger with Umpqua was still pending. See [Note 26 to the Consolidated Financial Statements in “Item 8. Financial Statements and Supplementary Data”](#) of this report for further information regarding this merger.

COVID-19 Update

We continue to follow recommended guidelines of healthcare officials in order to provide a safe environment for our associates and customers. The measures we have implemented remain effective in mitigating the spread of the virus in our organization and have allowed for the continued safe operation of our branches and facilities. Flexibility and adaptability have been key factors throughout the pandemic. As cases in communities slowed and local and state governments responded by adjusting guidelines, we adjusted controls accordingly. Throughout the COVID-19 pandemic, our preparedness allowed us to continue building our business while responding with appropriate precautions and protections for associates and customers.

For additional information on the impact and potential impact of COVID-19 on our business, financial condition, liquidity, capital and results of operations, see [Part I, Item 1A “Risk Factors”](#) of this report.

RESULTS OF OPERATIONS

Summary

A summary of the Company’s results of operations for each of the last three years ended December 31 follows:

	Year ended		Increase (Decrease)		Year ended		Increase (Decrease)		Year ended			
	2022		Amount		2021		Amount		2020			
<i>(dollars in thousands, except per share amounts)</i>												
Interest income	\$	646,481	\$	110,416	21	\$	536,065	\$	18,256	4	\$	517,809
Interest expense		23,645		15,099	177		8,546		(9,152)	(52)		17,698
Net interest income		622,836		95,317	18		527,519		27,408	5		500,111
Provision for credit losses		1,950		(2,850)	(59)		4,800		(72,900)	(94)		77,700
Noninterest income		99,144		5,050	5		94,094		(10,406)	(10)		104,500
Noninterest expense:												
Compensation and employee benefits		241,139		17,105	8		224,034		14,312	7		209,722
Other expense		161,244		24,974	18		136,270		11,473	9		124,797
Total		402,383		42,079	12		360,304		25,785	8		334,519
Income before income taxes		317,647		61,138	24		256,509		64,117	33		192,392
Provision for income taxes		67,469		13,780	26		53,689		15,541	41		38,148
Net income	\$	250,178	\$	47,358	23	\$	202,820	\$	48,576	31	\$	154,244
Less: earnings allocated to participating securities		50		(280)	(85)		330		(382)	(54)		712
Earnings allocated to common shareholders	\$	250,128	\$	47,638	24	\$	202,490	\$	48,958	32	\$	153,532
Earnings per common share, diluted	\$	3.20	\$	0.42	15	\$	2.78	\$	0.61	28	\$	2.17

Net Interest Income

Net interest income is the difference between interest income and interest expense. Net interest income on a fully taxable-equivalent basis expressed as a percentage of average total interest-earning assets is referred to as the net interest margin, which represents the average net effective yield on interest-earning assets.

The following table sets forth the average balances of all major categories of interest-earning assets and interest-bearing liabilities, the total dollar amounts of interest income on interest-earning assets and interest expense on interest-bearing liabilities, the average yield earned on interest-earning assets and average cost of interest-bearing liabilities by category and in total, net interest income, net interest spread, net interest margin and the ratio of average interest-earning assets to interest-bearing liabilities:

Net Interest Income Summary

	2022			2021			2020		
	Average Balances	Interest Earned/ Paid	Average Rate	Average Balances	Interest Earned/ Paid	Average Rate	Average Balances	Interest Earned/ Paid	Average Rate
<i>(dollars in thousands)</i>									
ASSETS									
Loans, net (1)(2)	\$ 11,211,442	\$ 500,112	4.46 %	\$ 9,832,385	\$ 420,439	4.28 %	\$ 9,411,213	\$ 430,923	4.58 %
Taxable securities	6,595,476	133,084	2.02 %	5,701,810	107,594	1.89 %	3,531,357	81,578	2.31 %
Tax exempt securities (2)	725,027	18,759	2.59 %	651,468	14,869	2.28 %	451,561	12,110	2.68 %
Interest-earning deposits with banks	336,850	2,748	0.82 %	725,155	955	0.13 %	522,480	661	0.13 %
Total interest-earning assets	18,868,795	654,703	3.47 %	16,910,818	543,857	3.22 %	13,916,611	525,272	3.77 %
Other earning assets	305,683			252,476			235,491		
Noninterest-earning assets	1,497,471			1,284,841			1,249,117		
Total assets	<u>\$ 20,671,949</u>			<u>\$ 18,448,135</u>			<u>\$ 15,401,219</u>		
LIABILITIES AND SHAREHOLDERS' EQUITY									
Money market accounts	\$ 4,324,611	\$ 6,098	0.14 %	\$ 3,805,723	\$ 3,083	0.08 %	\$ 3,043,731	\$ 4,381	0.14 %
Interest-bearing demand	2,056,059	1,877	0.09 %	1,637,531	1,225	0.07 %	1,248,975	1,453	0.12 %
Savings accounts	1,633,354	306	0.02 %	1,382,277	217	0.02 %	1,022,388	153	0.01 %
Interest-bearing public funds, other than certificates of deposit	734,667	7,582	1.03 %	721,090	1,005	0.14 %	544,109	2,003	0.37 %
Certificates of deposit	400,756	670	0.17 %	363,902	656	0.18 %	348,855	1,377	0.39 %
Total interest-bearing deposits	9,149,447	16,533	0.18 %	7,910,523	6,186	0.08 %	6,208,058	9,367	0.15 %
FHLB advances and FRB borrowings	113,683	4,659	4.10 %	7,388	291	3.94 %	342,721	6,264	1.83 %
Subordinated debentures	10,000	807	8.07 %	37,258	1,932	5.19 %	35,184	1,871	5.32 %
Other borrowings and interest-bearing liabilities	69,866	1,646	2.36 %	53,052	137	0.26 %	40,862	196	0.48 %
Total interest-bearing liabilities	9,342,996	23,645	0.25 %	8,008,221	8,546	0.11 %	6,626,825	17,698	0.27 %
Noninterest-bearing deposits	8,773,511			7,811,880			6,304,197		
Other noninterest-bearing liabilities	247,989			225,579			206,921		
Shareholders' equity	2,307,453			2,402,455			2,263,276		
Total liabilities & shareholders' equity	<u>\$ 20,671,949</u>			<u>\$ 18,448,135</u>			<u>\$ 15,401,219</u>		
Net interest income (tax equivalent)		<u>\$ 631,058</u>			<u>\$ 535,311</u>			<u>\$ 507,574</u>	
Net interest spread (tax equivalent)			3.22 %			3.11 %			3.50 %
Net interest margin (tax equivalent)			3.34 %			3.17 %			3.65 %
Average interest-earning assets to average interest-bearing liabilities			<u>201.96 %</u>			<u>211.17 %</u>			<u>210.00 %</u>

- (1) Nonaccrual loans have been included in the table as loans carrying a zero yield. Amortized net deferred loan fees and unearned net discounts on acquired loans were included in the interest income calculations. The amortization of net deferred loan fees was \$11.2 million, \$32.2 million and \$21.6 million for the years ended December 31, 2022, 2021 and 2020, respectively. The incremental amortization of net unearned discounts on acquired loans was \$3.9 million for the year ended December 31, 2022 compared to net accretion of \$2.8 million and \$6.2 million for the years ended December 31, 2021 and 2020.
- (2) Yields are shown on a fully taxable equivalent basis. The tax equivalent yield adjustment to interest earned on loans was \$4.3 million, \$4.7 million and \$4.9 million for the years ended December 31, 2022, 2021 and 2020, respectively. The tax equivalent yield adjustment to interest earned on tax exempt securities was \$3.9 million, \$3.1 million and \$2.5 million for the years ended December 31, 2022, 2021 and 2020, respectively.

Net interest income is impacted by the volume (changes in volume multiplied by prior rate), interest rate (changes in rate multiplied by prior volume) and the mix of interest-earning assets and interest-bearing liabilities. The following table shows changes in net interest income on a fully taxable-equivalent basis between 2022 and 2021, as well as between 2021 and 2020 broken down between volume and rate. Changes attributable to the combined effect of volume and interest rates have been allocated proportionately to the changes due to volume and the changes due to interest rates:

Changes in Net Interest Income

	2022 Compared to 2021 Increase (Decrease) Due to			2021 Compared to 2020 Increase (Decrease) Due to		
	Volume	Rate	Total (1)	Volume	Rate	Total (1)
<i>(in thousands)</i>						
Interest Income						
Loans, net	\$ 60,916	\$ 18,757	\$ 79,673	\$ 18,770	\$ (29,254)	\$ (10,484)
Taxable securities	17,673	7,817	25,490	43,066	(17,050)	26,016
Tax-exempt securities	1,782	2,108	3,890	4,764	(2,005)	2,759
Interest earning-deposits with banks	(760)	2,553	1,793	265	29	294
Interest income	<u>\$ 79,611</u>	<u>\$ 31,235</u>	<u>\$ 110,846</u>	<u>\$ 66,865</u>	<u>\$ (48,280)</u>	<u>\$ 18,585</u>
Interest Expense						
Deposits:						
Money market accounts	\$ 469	\$ 2,546	\$ 3,015	\$ 922	\$ (2,220)	\$ (1,298)
Interest-bearing demand	350	302	652	377	(605)	(228)
Savings accounts	43	46	89	56	8	64
Interest-bearing public funds, other than certificates of deposit	19	6,558	6,577	513	(1,511)	(998)
Certificates of deposit	64	(50)	14	57	(778)	(721)
Total interest on deposits	<u>945</u>	<u>9,402</u>	<u>10,347</u>	<u>1,925</u>	<u>(5,106)</u>	<u>(3,181)</u>
FHLB advances and FRB borrowings	4,355	13	4,368	(9,371)	3,398	(5,973)
Subordinated debentures	(4,695)	3,570	(1,125)	106	(45)	61
Other borrowings and interest-bearing liabilities	57	1,452	1,509	107	(166)	(59)
Interest expense	<u>\$ 662</u>	<u>\$ 14,437</u>	<u>\$ 15,099</u>	<u>\$ (7,233)</u>	<u>\$ (1,919)</u>	<u>\$ (9,152)</u>
	<u>\$ 78,949</u>	<u>\$ 16,798</u>	<u>\$ 95,747</u>	<u>\$ 74,098</u>	<u>\$ (46,361)</u>	<u>\$ 27,737</u>

(1) The change in interest not due solely to volume or rate has been allocated in proportion to the absolute dollar amount of the change in each.

Comparison of 2022 with 2021

Taxable-equivalent net interest income totaled \$631.1 million in 2022, compared with \$535.3 million for 2021. The increase in net interest income during 2022 resulted from the increase in the size and average rate of the loan and investment securities portfolios. This was partially offset by increased interest expense on deposits due to the higher rate environment and higher FHLB advance balances.

The Company's net interest margin (tax equivalent) increased from 3.17% for the year ended December 31, 2021 to 3.34% for the current year. The increase in the net interest margin (tax equivalent) was predominantly driven by the increase in the size and average rate of the loan and investment securities portfolios. This was partially offset by a shift in the funding mix from deposits to higher-costing FHLB advances. The Company's operating net interest margin (tax equivalent) increased from 3.17% for the year ended December 31, 2021 to 3.39% for the current year for the same reasons noted in the net interest margin increase discussed above. For additional information on Non-GAAP measures, see the [Non-GAAP Measures](#) section of this discussion.

For a discussion of the methodologies used by management in recording interest income on loans, please see [Note 1 to the Consolidated Financial Statements in "Item 8. Financial Statements and Supplementary Data"](#) of this report.

Provision for Credit Losses

The Company accounts for the credit risk associated with lending activities through its ACL and provision for credit losses. The provision is the expense recognized in the Consolidated Statements of Income to adjust the allowance to the level deemed appropriate by management, as determined through its application of the Company's allowance methodology procedures. For discussion of the methodology used by management in determining the adequacy of the ACL, see the "[Allowance for Credit Losses and Unfunded Commitments and Letters of Credit](#)" and "[Critical Accounting Policies](#)" sections of this discussion.

The Company recorded provision expense of \$2.0 million for credit losses during 2022 compared to a provision expense of \$4.8 million for 2021. A provision expense of \$77.7 million was recorded in 2020. The decrease in provision expense for 2022 was due to improved credit quality, the removal of allowance for credit loss on loans transferred to held for sale in connection with the branch divestitures related to our pending merger with Umpqua, a reduction in COVID-19 related reserve impacts and recoveries outpacing charge-offs. In addition, the provision recorded in 2022 included management's ongoing assessment of the credit quality of the Company's loan portfolio. Factors affecting the provision include net charge-offs, credit quality migration and size and composition of the loan portfolio and changes in the economic environment during the period. See "[Allowance for Credit Losses and Unfunded Commitments and Letters of Credit](#)" section of this discussion for further information on factors considered by the Company in assessing the credit quality of the loan portfolio and establishing the ACL.

Net loan recoveries for the year ended December 31, 2022 were \$910 thousand. For the years ended December 31, 2021 and 2020, net loan charge-offs amounted to \$978 thousand, and \$14.2 million, respectively.

Noninterest Income

The following table presents the significant components of noninterest income and the related dollar and percentage change from period to period:

	Years ended December 31,						2020
	2022	\$ Change	% Change	2021	\$ Change	% Change	
	<i>(dollars in thousands)</i>						
Deposit account and treasury management fees	\$ 31,498	\$ 4,391	16 %	\$ 27,107	\$ 88	— %	\$ 27,019
Card revenue	20,186	1,683	9 %	18,503	4,575	33 %	13,928
Financial services and trust revenue	17,659	1,906	12 %	15,753	2,923	23 %	12,830
Loan revenue	12,582	(9,462)	(43)%	22,044	(2,758)	(11)%	24,802
Bank owned life insurance	7,636	1,103	17 %	6,533	115	2 %	6,418
Investment securities gains (losses), net	(9)	(323)	(103)%	314	(16,396)	(98)%	16,710
Other	9,592	5,752	150 %	3,840	1,047	37 %	2,793
Total noninterest income	<u>\$ 99,144</u>	<u>\$ 5,050</u>	5 %	<u>\$ 94,094</u>	<u>\$ (10,406)</u>	(10)%	<u>\$ 104,500</u>

Comparison of 2022 with 2021

The \$5.1 million increase in noninterest income was due to increases in other noninterest income, deposit account and treasury management fees, card revenue and financial services and trust revenue partially offset by decreases in loan revenue. The increase in other noninterest income was primarily related to a \$3.7 million gain from the sale-leaseback of owned real estate. The increases in noninterest income were partially offset by a decrease in loan revenue primarily driven by a decrease in mortgage banking revenue, which was caused by an overall reduction in loan volumes due to the higher rate environment.

Noninterest Expense

The following table presents the significant components of noninterest expense and the related dollar and percentage changes from period to period:

	Years ended December 31,						
	2022	\$ Change	% Change	2021	\$ Change	% Change	2020
<i>(dollars in thousands)</i>							
Compensation and employee benefits	\$ 241,139	\$ 17,105	8 %	\$ 224,034	\$ 14,312	7 %	\$ 209,722
Occupancy	41,150	3,335	9 %	37,815	1,802	5 %	36,013
Data processing and software	41,117	7,619	23 %	33,498	4,049	14 %	29,449
Legal and professional fees	20,578	1,668	9 %	18,910	6,752	56 %	12,158
Amortization of intangibles	8,698	711	9 %	7,987	(737)	(8)%	8,724
B&O taxes	6,797	894	15 %	5,903	933	19 %	4,970
Advertising and promotion	3,962	579	17 %	3,383	(1,083)	(24)%	4,466
Regulatory premiums	6,619	1,707	35 %	4,912	1,956	66 %	2,956
Net cost (benefit) of operation of OREO	114	48	73 %	66	381	(121)%	(315)
Other	32,209	8,413	35 %	23,796	(2,580)	(10)%	26,376
Total noninterest expense	\$ 402,383	\$ 42,079	12 %	\$ 360,304	\$ 25,785	8 %	\$ 334,519

The following table shows the impact of the merger-related expenses for the periods indicated to the various components of noninterest expense:

	Years ended December 31,		
	2022	2021	2020
<i>(in thousands)</i>			
Merger-related expenses:			
Compensation and employee benefits	\$ 2,109	\$ 4,875	\$ —
Occupancy	1,367	271	—
Data processing and software	3,180	287	—
Legal and professional fees	10,114	8,287	—
Advertising & promotion	170	111	—
Other	2,161	683	—
Total impact of merger-related costs to noninterest expense	\$ 19,101	\$ 14,514	\$ —
Merger-related expenses by transaction:			
Bank of Commerce (1)	\$ 5,593	\$ 10,370	\$ —
Umpqua (2)	\$ 13,508	\$ 4,144	\$ —
Total impact of merger-related costs to noninterest expense	\$ 19,101	\$ 14,514	\$ —

(1) The Company completed the Bank of Commerce acquisition on October 1, 2021.

(2) The Company expects to close this transaction after the close of business on February 28, 2023.

Comparison of 2022 with 2021

Noninterest expense was \$402.4 million in 2022, an increase of \$42.1 million over 2021. Merger-related expenses in the current year were \$19.1 million, an increase of \$4.6 million over 2021. After removing the effect of merger-related expenses, noninterest expense increased \$37.5 million mainly due to higher compensation and employee benefits stemming from additional personnel costs associated with the Bank of Commerce acquisition and lower loan origination costs related to the prior year PPP loan production. Higher occupancy expense was also associated with the Bank of Commerce acquisition. In addition, data processing expense and regulatory premiums increased. Other noninterest expense increased mainly due to higher net loan expense, travel and entertainment expenses and fraud losses. These increases were partially offset by a provision recapture for unfunded loan commitments.

The provision (recapture) for unfunded loan commitments, a component of other noninterest expense, are as follows for the periods indicated:

	Years ended December 31,		
	2022	2021	2020
	<i>(in thousands)</i>		
Provision (recapture) for unfunded loan commitments	\$ (500)	\$ 200	\$ 3,300

Income Tax

For the years ended December 31, 2022, 2021 and 2020, we recorded income tax provisions of \$67.5 million, \$53.7 million and \$38.1 million, respectively. The effective tax rate was 21% in 2022 and 2021 and 20% in 2020. For additional information, see [Note 25 to the Consolidated Financial Statements in “Item 8. Financial Statements and Supplementary Data”](#) of this report.

Financial Condition

Our total assets decreased 3% to \$20.27 billion at December 31, 2022 from \$20.95 billion at December 31, 2021. Cash and cash equivalents decreased \$533.0 million. Total debt securities decreased \$1.44 billion due to a combination of maturities, repayments and fair value movement. The loan portfolio, net of the allowance for credit losses, increased \$966.2 million.

Liabilities decreased \$303.9 million, or 2% to \$18.05 billion due to a decrease in total deposits partially offset by increases in FHLB advances. Total deposits decreased \$1.30 billion. Total shareholders’ equity decreased \$375.6 million to \$2.21 billion primarily as a result of market value decreases in our available for sale securities portfolio, which are recorded to accumulated other comprehensive income, net of tax.

Investment Portfolio

We invest in securities to generate revenue for the Company, to manage liquidity while minimizing interest rate risk and to provide collateral for certain public deposits and short-term borrowings. The amortized cost amounts represent the Company’s original cost for the investments, adjusted for accumulated amortization or accretion of any yield adjustments related to the security. The estimated fair values are the amounts we believe the securities could be sold for as of the dates indicated. At December 31, 2022, gross unrealized losses in our debt securities available for sale portfolio were \$694.3 million related to 1,378 separate available for sale securities. Based on past experience with these types of securities and our own financial performance, we do not currently intend to sell any securities in a loss position nor does available evidence suggest it is more likely than not that management will be required to sell any securities currently in a loss position before the recovery of the amortized cost basis. We review these investments for credit losses on an ongoing basis.

All of the Company’s debt securities held to maturity were issued by U.S. government agencies or U.S. government-sponsored enterprises. These securities carry the explicit and/or implicit guarantee of the U.S. government, are widely recognized as “risk free,” and have a long history of zero credit loss. Therefore, the Company did not record an allowance for credit losses for these securities as of December 31, 2022.

Debt securities available for sale decreased \$1.32 billion from the prior year due to maturities and repayments of \$770.7 million, \$706.7 million in net unrealized losses, and premium amortization of \$31.0 million, partially offset by purchases of \$186.5 million. Debt securities held to maturity decreased by \$113.5 million due to maturities and repayments of \$188.4 million and premium amortization of \$22.7 million, partially offset by purchases of \$97.7 million.

At December 31, 2022, U.S. government agency and government-sponsored enterprise mortgage-backed securities and collateralized mortgage obligations comprised 71% of our debt securities portfolio, other asset-backed securities were 5%, state and municipal securities were 13% and government agency, government-sponsored enterprise securities were 3%, government securities were 3% and non-agency collateralized mortgage obligations were 5%. The portion of our investment portfolio that is categorized as available for sale is carried on our balance sheet at fair value and the average duration was approximately 5 years and 2 months at December 31, 2022. The portion of our investment portfolio that is categorized as held to maturity is carried on our balance sheet at amortized cost and had an average duration of approximately 5 years and 7 months at December 31, 2022. These durations take into account calls, where appropriate, and consensus prepayment speeds.

The following table presents the contractual maturities and weighted average yield of our investment portfolio:

	December 31, 2022		
	Amortized Cost	Fair Value	Yield
<i>(dollars in thousands)</i>			
Available for sale:			
U.S. government agency and government-sponsored enterprise mortgage-backed securities & collateralized mortgage obligations (1)			
Due through 1 year	\$ 1,407	\$ 1,397	0.60 %
Over 1 through 5 years	583,912	545,233	2.51 %
Over 5 through 10 years	714,547	622,765	1.90 %
Over 10 years	1,888,515	1,590,315	1.98 %
Total	<u>\$ 3,188,381</u>	<u>\$ 2,759,710</u>	2.07 %
Other asset-backed securities (1)			
Due through 1 year	\$ 100	\$ 99	2.28 %
Over 1 through 5 years	\$ 49,394	\$ 44,312	2.10 %
Over 5 through 10 years	162,820	143,324	1.67 %
Over 10 years	164,022	139,618	1.95 %
Total	<u>\$ 376,336</u>	<u>\$ 327,353</u>	1.85 %
State and municipal securities (2)			
Due through 1 year	\$ 35,056	\$ 34,903	2.96 %
Over 1 through 5 years	143,242	137,721	2.56 %
Over 5 through 10 years	228,322	206,055	2.23 %
Over 10 years	552,849	455,394	2.30 %
Total	<u>\$ 959,469</u>	<u>\$ 834,073</u>	2.35 %
U.S. government agency and government-sponsored enterprise securities (1)			
Due through 1 year	\$ 48,531	\$ 47,817	2.28 %
Over 1 through 5 years	173,298	159,988	0.83 %
Over 5 through 10 years	1,000	964	3.50 %
Total	<u>\$ 222,829</u>	<u>\$ 208,769</u>	1.17 %
U.S. government securities (1)			
Over 1 through 5 years	\$ 183,049	\$ 167,896	1.00 %
Total	<u>\$ 183,049</u>	<u>\$ 167,896</u>	1.00 %
Non-agency collateralized mortgage obligations (1)			
Over 10 years	\$ 352,782	\$ 291,298	2.36 %
Total	<u>\$ 352,782</u>	<u>\$ 291,298</u>	2.36 %
Held to maturity:			
U.S. government agency and government-sponsored enterprise mortgage-backed securities & collateralized mortgage obligations (1)			
Over 1 through 5 years	\$ 301,515	\$ 265,831	1.27 %
Over 5 through 10 years	916,571	775,931	1.61 %
Over 10 years	816,706	681,016	1.79 %
Total	<u>\$ 2,034,792</u>	<u>\$ 1,722,778</u>	1.63 %

(1) The maturities reported for mortgage-backed securities, collateralized mortgage obligations, other asset-backed securities, government agency and government-sponsored enterprise securities, government securities, and non-agency collateralized mortgage obligations are based on contractual maturities and principal amortization.

(2) Yields on fully taxable equivalent basis.

For further information on our investment portfolio, see [Note 4 to the Consolidated Financial Statements in "Item 8. Financial Statements and Supplementary Data"](#) of this report.

FHLB Stock

The FHLB stock is composed of two sub-classes: membership stock and activity based stock. Membership stock is stock we are required to purchase and hold as a condition of membership in the FHLB. The Company's membership stock purchase requirement is measured as a percentage of our year end assets, subject to a \$10 million cap. Activity based stock is stock we are required to purchase and hold in order to obtain an advance or participate in FHLB mortgage programs. The Company's activity based stock purchase requirement is measured as a percentage of our advance proceeds. At December 31, 2022, the Company held \$48.2 million of FHLB Class B stock, \$10.0 million of which was membership stock and the remaining \$38.2 million of which was activity based. The FHLB stock is issued, transferred, redeemed, and repurchased at a par value of \$100.

Loan Portfolio

Our wholly-owned banking subsidiary Columbia State Bank is a full service commercial bank, which originates a wide variety of loans, and focuses its lending efforts on originating commercial real estate and commercial business loans.

Commercial Real Estate Loans: Commercial real estate loans are secured by properties located within our primary market areas and typically, have loan-to-value ratios of 80% or lower at origination. Our underwriting standards for commercial and multifamily residential loans generally require that the loan-to-value ratio for these loans not exceed 75% of appraised value, cost, or discounted cash flow value, as appropriate, and that commercial properties maintain debt coverage ratios (net operating income divided by annual debt servicing) of 1.2 or better. However, underwriting standards can be influenced by competition and other factors. We endeavor to maintain the highest practical underwriting standards while balancing the need to remain competitive in our lending practices.

Commercial Business Loans: Our commercial business lending is directed toward meeting the credit and related deposit and treasury management needs of small to medium sized businesses. Commercial and industrial loans are primarily underwritten based on the identified cash flows of the borrower's operations and secondarily on the underlying collateral provided by the borrower and/or the strength of the guarantor. The majority of these loans provide financing for working capital and capital expenditures. Loan terms, including, loan maturity, fixed or adjustable interest rate and collateral considerations, are based on factors such as the loan purpose, collateral type and industry and are underwritten on an individual loan basis.

Agriculture Loans: Agricultural lending includes agricultural real estate and production loans and lines of credit within our primary market area. We are committed to our communities, offering seasonal and longer-term loans and operating lines of credit by lending officers with expertise in the agricultural communities we serve. Typical loan-to-value ratios on term loans can range from 55% to 80% depending upon the type of loan. Operating lines of credit require the borrower to provide a 20% to 25% equity investment. The debt coverage ratio is generally 1.25 or better on all term loans.

Construction Loans: We originate a variety of real estate construction loans. Underwriting guidelines for these loans vary by loan type but include loan-to-value limits, term limits and loan advance limits, as applicable. Our underwriting guidelines for commercial and multifamily residential real estate construction loans generally require that the loan-to-value ratio not exceed 75% and stabilized debt coverage ratios (net operating income divided by annual debt service) of 1.2 or better. As noted above, underwriting standards can be influenced by competition and other factors. However, we endeavor to maintain the highest practical underwriting standards while balancing the need to remain competitive in our lending practices.

One-to-four Family Residential Real Estate Loans: One-to-four family residential loans, including home equity loans and lines of credit, are secured by properties located within our primary market areas and, typically, have loan-to-value ratios of 80% or lower at origination.

Other Consumer Loans: Consumer loans include automobile loans, boat and recreational vehicle financing, and other miscellaneous personal loans.

Foreign Loans: The Company has no material foreign activities. Substantially all of the Company's loans and unfunded commitments are geographically concentrated in its service areas within the states of Washington, Oregon, Idaho and California.

Maturities and Sensitivities of Loans to Changes in Interest Rates

The following table presents the maturity distribution of our loan portfolio and the sensitivity of these loans due after one year to changes in interest rates as of December 31, 2022:

	Maturing				Total
	Due Through 1 Year	Over 1 Through 5 Years	Over 5 Through 15 Years	Over 15 Years	
<i>(in thousands)</i>					
Commercial loans:					
Commercial real estate	\$ 132,817	\$ 1,190,478	\$ 3,735,353	\$ 294,137	\$ 5,352,785
Commercial business	1,253,136	948,835	1,397,565	151,028	3,750,564
Agriculture	304,001	202,193	329,726	12,983	848,903
Construction	295,685	87,501	127,673	30,002	540,861
Consumer loans:					
One-to-four family residential real estate	19,977	67,128	264,630	725,759	1,077,494
Other consumer	6,826	18,566	9,930	5,044	40,366
Total loans	<u>\$ 2,012,442</u>	<u>\$ 2,514,701</u>	<u>\$ 5,864,877</u>	<u>\$ 1,218,953</u>	<u>\$ 11,610,973</u>
Fixed rate loans due after 1 year					
Commercial loans:					
Commercial real estate		\$ 598,305	\$ 2,698,539	\$ 43,216	\$ 3,340,060
Commercial business		541,953	1,089,218	25,402	1,656,573
Agriculture		107,205	218,465	3,761	329,431
Construction		13,832	81,427	46	95,305
Consumer loans:					
One-to-four family residential real estate		42,218	202,397	377,568	622,183
Other consumer		9,318	9,930	1,081	20,329
Total fixed rate loans due after 1 year		<u>\$ 1,312,831</u>	<u>\$ 4,299,976</u>	<u>\$ 451,074</u>	<u>\$ 6,063,881</u>
Variable rate loans due after 1 year					
Commercial loans:					
Commercial real estate		\$ 592,173	\$ 1,036,814	\$ 250,921	\$ 1,879,908
Commercial business		406,882	308,347	125,626	840,855
Agriculture		94,988	111,261	9,222	215,471
Construction		73,669	46,246	29,956	149,871
Consumer loans:					
One-to-four family residential real estate		24,910	62,233	348,191	435,334
Other consumer		9,248	—	3,963	13,211
Total variable rate loans due after 1 year		<u>\$ 1,201,870</u>	<u>\$ 1,564,901</u>	<u>\$ 767,879</u>	<u>\$ 3,534,650</u>
Total loans due after 1 year		<u>\$ 2,514,701</u>	<u>\$ 5,864,877</u>	<u>\$ 1,218,953</u>	<u>\$ 9,598,531</u>

Net unearned acquisition premium (discount): The following table provides additional details related to the net premium (discount) of acquired and purchased loans, by acquisition for the periods indicated:

	2022	2021	2020
	<i>(in thousands)</i>		
Acquisition:			
Bank of Commerce	\$ 6,416	\$ 12,923	\$ —
Pacific Continental	(3,615)	(5,306)	(8,442)
All other purchased and acquired net premium (discount)	3,819	5,031	(3,742)
Total net premium (discount) at period end	<u>\$ 6,620</u>	<u>\$ 12,648</u>	<u>\$ (12,184)</u>

For additional information on our loan portfolio, including amounts pledged as collateral on borrowings, see [Note 5 to the Consolidated Financial Statements in "Item 8. Financial Statements and Supplementary Data"](#) of this report.

Allowance for Credit Losses

The ACL is an accounting estimate of expected credit losses in our loan portfolio at the balance sheet date. The provision for credit losses is the expense recognized in the Consolidated Statements of Income to adjust the ACL to the levels deemed appropriate by management, as measured by the Company's credit loss estimation methodologies. The allowance for unfunded commitments and letters of credit is maintained at a level believed by management to be sufficient to absorb estimated expected losses related to these unfunded credit facilities at the balance sheet date.

Analysis of ACL

The table below sets forth the ratio of net charge-offs during the period to average loans outstanding during the period:

	December 31,								
	2022			2021			2020		
	Net Chg-offs (Recoveries)	Average Loans	Ratio Net Charge-offs (Recoveries) to Average Loans	Net Chg-offs (Recoveries)	Average Loans	Ratio Net Charge-offs (Recoveries) to Average Loans	Net Chg-offs (Recoveries)	Average Loans	Ratio Net Charge-offs (Recoveries) to Average Loans
<i>(dollars in thousands)</i>									
Commercial loans:									
Commercial real estate	\$ 92	\$ 5,161,841	— %	\$ 411	\$ 4,293,136	0.01 %	\$ 1,288	\$ 3,994,597	0.03 %
Commercial business	(75)	3,661,645	— %	1,502	3,629,301	0.04 %	8,958	3,616,711	0.25 %
Agriculture	(70)	833,162	(0.01)%	(33)	782,718	— %	6,255	759,059	0.82 %
Construction	(387)	457,970	(0.08)%	(593)	314,484	(0.19)%	(709)	313,604	(0.23)%
Consumer loans:									
One-to-four family residential real estate	(940)	1,049,846	(0.09)%	(737)	765,777	(0.10)%	(1,999)	673,854	(0.30)%
Consumer	470	43,820	1.07 %	428	35,400	1.21 %	367	38,539	0.95 %
Loans held for sale	—	3,158	— %	—	11,569	— %	—	14,849	— %
Total	\$ (910)	\$ 11,211,442	(0.01)%	\$ 978	\$ 9,832,385	0.01 %	\$ 14,160	\$ 9,411,213	0.15 %

Allocation of the ACL

The table below sets forth the allocation of the ACL by loan category:

	December 31,					
	2022		2021		2020	
	Amount	% of Total Loans(1)	Amount	% of Total Loans(1)	Amount	% of Total Loans(1)
<i>(dollars in thousands)</i>						
Balance at End of Period Applicable to:						
Commercial loans:						
Commercial real estate	\$ 54,856	46.1 %	\$ 61,254	46.8 %	\$ 68,934	43.0 %
Commercial business	57,836	32.3 %	54,712	32.2 %	45,250	38.2 %
Agriculture	9,071	7.3 %	8,148	7.5 %	9,052	8.3 %
Construction	13,142	4.7 %	5,397	3.6 %	7,636	2.8 %
Consumer loans:						
One-to-four family residential real estate	22,355	9.3 %	24,123	9.5 %	16,875	7.3 %
Consumer	1,178	0.3 %	1,944	0.4 %	1,393	0.4 %
Total	\$ 158,438	100.0 %	\$ 155,578	100.0 %	\$ 149,140	100.0 %

(1) Represents the total of all outstanding loans in each category as a percent of total loans outstanding.

Credit Ratios

The following table sets forth the ratios between the ACL, nonaccrual loans and total loans:

	December 31,		
	2022	2021	2020
	<i>(dollars in thousands)</i>		
ACL at end of period	\$ 158,438	\$ 155,578	\$ 149,140
Nonaccrual loans at end of period	\$ 13,441	\$ 23,041	\$ 34,806
Loans outstanding at end of period	\$ 11,610,973	\$ 10,641,937	\$ 9,427,660
ACL to total loans	1.36 %	1.46 %	1.58 %
Nonaccrual loans to total loans	0.12 %	0.22 %	0.37 %
ACL to nonaccrual loans	1178.77 %	675.22 %	428.49 %

The increase in the ratio of ACL to nonaccrual loans from 2020 to 2021, as well as 2021 to 2022, was primarily due to decreases in nonaccrual loans and increases in the ACL as a result of loan growth. For additional information on our allowance for credit losses, see [Note 6 to the Consolidated Financial Statements in “Item 8. Financial Statements and Supplementary Data”](#) of this report.

Deposits

The following table sets forth the composition of the Company’s deposits by significant category:

	December 31,		
	2022 (1)	2021	2020
	<i>(in thousands)</i>		
Demand and other noninterest-bearing	\$ 8,373,350	\$ 8,856,714	\$ 6,913,214
Money market	2,972,838	3,525,299	2,780,922
Interest-bearing demand	1,980,631	1,999,407	1,433,083
Savings	1,555,765	1,617,546	1,169,721
Interest-bearing public funds, other than certificates of deposit	670,580	779,146	656,273
Certificates of deposit, less than \$250,000	215,848	249,120	201,805
Certificates of deposit, \$250,000 or more	124,411	160,490	108,935
Certificates of deposit insured by CD Option of IntraFi Network	21,828	35,611	23,105
Brokered certificates of deposit	—	—	5,000
Reciprocal money market accounts	796,199	786,046	577,804
Subtotal	16,711,450	18,009,379	13,869,862
Valuation adjustment resulting from acquisition accounting	—	736	—
Total deposits	\$ 16,711,450	\$ 18,010,115	\$ 13,869,862

(1) Includes \$259.4 million of noninterest-bearing deposits and \$325.7 million of interest-bearing deposits classified as held for sale at December 31, 2022.

Deposits totaled \$16.71 billion at December 31, 2022 compared to \$18.01 billion at December 31, 2021. Noninterest-bearing deposits, interest-bearing deposits, and reciprocal money market accounts provide a stable source of low cost funding.

At December 31, 2022, broker deposits, other wholesale deposits and reciprocal money market accounts (excluding public funds) totaled \$818.0 million or 4.9% of total deposits compared to \$821.7 million or 4.6% of total deposits, at year end 2021. The reciprocal money market account program is similar to the CD Option of IntraFi Network Deposits program, which is a network that allows participating banks to offer extended FDIC deposit insurance coverage on time deposits. These extended deposit insurance programs are generally available only to existing customers and are not used as a means of generating additional liquidity.

At December 31, 2022, public funds held by the Company totaled \$949.0 million compared to \$1.07 billion at December 31, 2021. Uninsured public funds balances decreased from \$1.00 billion at December 31, 2021 to \$877.7 million at December 31, 2022. The Company is required to collateralize 50% of Washington state, 40% of Oregon state and 110% of California state uninsured public funds. For additional information regarding the collateral for these deposits, see [Note 4 to the Consolidated Financial Statements in “Item 8. Financial Statements and Supplementary Data”](#) of this report.

The following table sets forth time deposits in excess of the FDIC insurance limit, which is currently \$250,000, by time remaining until maturity:

	December 31, 2022	
	<i>(dollars in thousands)</i>	
Amounts maturing in:		
Three months or less (1)	\$	74,641
Over 3 through 6 months		5,386
Over 6 through 12 months		13,120
Over 12 months		31,264
Total	\$	124,411

(1) Includes \$4.1 million of certificates of deposit held for sale at December 31, 2022.

As of December 31, 2022, the Company had approximately \$7.19 billion of uninsured deposits, which is an estimated amount based on the same methodologies and assumptions used for the Bank’s regulatory requirements.

The following table sets forth the average amount of and the average rate paid on each significant deposit category:

	Years ended December 31,					
	2022		2021		2020	
	Average Deposits	Average Rate	Average Deposits	Average Rate	Average Deposits	Average Rate
	<i>(dollars in thousands)</i>					
Money market	\$ 4,324,611	0.14 %	\$ 3,805,723	0.08 %	\$ 3,043,731	0.14 %
Interest-bearing demand	2,056,059	0.09 %	1,637,531	0.07 %	1,248,975	0.12 %
Savings	1,633,354	0.02 %	1,382,277	0.02 %	1,022,388	0.01 %
Interest-bearing public funds, other than certificates of deposit	734,667	1.03 %	721,090	0.14 %	544,109	0.37 %
Certificates of deposit	400,756	0.17 %	363,902	0.18 %	348,855	0.39 %
Total interest-bearing deposits	9,149,447	0.18 %	7,910,523	0.08 %	6,208,058	0.15 %
Demand and other noninterest-bearing	8,773,511		7,811,880		6,304,197	
Total average deposits	\$ 17,922,958		\$ 15,722,403		\$ 12,512,255	

Borrowings

Borrowed funds provide an additional source of funding for loan growth. Our borrowed funds consist primarily of FHLB advances, FRB borrowings, securities sold under agreements to repurchase, subordinated debentures, junior subordinated debentures and a revolving line of credit. FHLB advances and FRB borrowings are secured by our loan portfolio and investment securities. Securities sold under agreements to repurchase are secured by investment securities. Subordinated debentures and junior subordinated debentures are unsecured and the revolving line of credit is available, if necessary, and requires the Company to comply with certain covenants including those related to asset quality and capital levels. For additional information on our borrowings, see [Notes 12, 13, 14, 15, and 16 to the Consolidated Financial Statements in “Item 8. Financial Statements and Supplementary Data”](#) of this report.

Off-Balance Sheet Arrangements

In the normal course of business, the Company is a party to financial instruments with off-balance sheet risk. These financial instruments include commitments to extend credit and standby letters of credit. These instruments involve, to varying degrees, elements of credit and interest rate risk in excess of the amount reflected in the Consolidated Balance Sheets.

Exposure to credit loss in the event of nonperformance by the other party to the financial instrument for commitments to extend credit and standby letters of credit is represented by the contractual notional amount of those instruments. The Company uses the same credit policies in making commitments and conditional obligations as it does for on-balance sheet instruments. The Company evaluates each client's creditworthiness on a case-by-case basis.

Commitments to extend credit are agreements to lend to a client as long as there is no violation of any condition established in the contract. Commitments generally have fixed expiration dates or other termination clauses and may require payment of a fee. Since a portion of the commitments are expected to expire without being drawn upon, the total commitment amounts do not necessarily represent future cash requirements.

The Company had off-balance sheet loan commitments aggregating \$3.91 billion and \$3.50 billion at December 31, 2022 and 2021, respectively. Standby letters of credit were \$33.2 million at December 31, 2022, a decrease from \$36.0 million at December 31, 2021.

Liquidity and Sources of Funds

In general, our primary sources of funds are net income, loan repayments, maturities and principal payments on investment securities, customer deposits, advances from the FHLB, borrowings from the FRB, securities repurchase agreements, subordinated debentures, junior subordinated debentures and a revolving line of credit available, if necessary. These funds are used to make loans, purchase investments, meet deposit withdrawals and maturing liabilities and cover operational expenses. Scheduled loan repayments and client deposits have proven to be a relatively stable source of funds while other deposit inflows and unscheduled loan prepayments are influenced by interest rate levels, competition and general economic conditions. We manage liquidity through monitoring sources and uses of funds on a daily basis and had unused credit lines with the FHLB and the FRB of \$1.92 billion and \$198.8 million, respectively, at December 31, 2022, that are available to us as a supplemental funding source. The holding company's sources of funds are dividends from its banking subsidiary which are used to fund dividends to shareholders, purchase treasury shares and cover operating expenses.

In addition, we have a shelf registration statement on file with the SEC registering an unspecified amount of any combination of debt or equity securities, depository shares, purchase contracts, units and warrants in one or more offerings. From time to time, we may seek to raise additional capital in order to meet our commitments, fund our business needs and future growth, and supplement our regulatory capital. Specific information regarding the terms of the securities being offered will be provided at the time of any offering. Proceeds from any future offerings are expected to be used for general corporate purposes, including, but not limited to, the repayment of debt, repurchasing or redeeming outstanding securities, working capital, funding future acquisitions or other purposes identified at the time of any future offering.

We are party to many contractual financial obligations, including repayments of deposits and borrowings and payments for operating leases. The table below presents certain future financial obligations of the Company:

	Payments due within time period at December 31, 2022				
	0-12 Months	1-3 Years	4-5 Years	Due after Five Years	Total
	<i>(in thousands)</i>				
Total deposits (1) (2)	\$ 16,616,237	\$ 77,231	\$ 17,972	\$ 10	\$ 16,711,450
FHLB advances (1)	949,000	—	—	5,315	954,315
Operating leases	11,597	19,564	14,749	18,269	64,179
Other borrowings (1)	95,168	—	—	—	95,168
Junior subordinated debentures (1)	—	—	—	10,310	10,310
Subordinated debentures (1)	—	10,000	—	—	10,000
Total	<u>\$ 17,672,002</u>	<u>\$ 106,795</u>	<u>\$ 32,721</u>	<u>\$ 33,904</u>	<u>\$ 17,845,422</u>

(1) In the banking industry, interest-bearing obligations are principally used to fund interest-earning assets. As such, interest charges on contractual obligations were excluded from reported amounts, as the potential cash outflows would have corresponding cash inflows from interest-earning assets.

(2) Includes \$585.1 million of deposits held for sale at December 31, 2022.

For additional information regarding our contractual obligations, see Notes [10](#), [11](#), [12](#), [13](#), [14](#) and [15 to the Consolidated Financial Statements in "Item 8. Financial Statements and Supplementary Data"](#) of this report.

Capital

Our shareholders' equity decreased to \$2.21 billion at December 31, 2022, from \$2.59 billion at December 31, 2021. This decrease was primarily a result of market value decreases in our available for sale securities portfolio, partially offset by higher retained earnings. Shareholders' equity was 10.92% and 12.36% of total assets at December 31, 2022 and 2021, respectively. Dividends per common share were \$1.20 and \$1.14, for the years ended December 31, 2022 and 2021, respectively.

Regulatory Capital. We are subject to the Capital Rules (as discussed in "Item 1. Business—Supervision and Regulation—Regulatory Capital Requirements"), which implement the Basel III capital framework and various provisions of the Dodd-Frank Act. The Company and the Bank are required to maintain a capital conservation buffer of 2.5% of CET1, effectively resulting in minimum ratios of (i) CET1 to risk-weighted assets of at least 7%, (ii) Tier 1 capital to risk-weighted assets of at least 8.5%, and (iii) total capital to risk-weighted assets of at least 10.5%. The Company and the Bank met all such capital requirements as of December 31, 2022.

In addition, FDIC regulations set forth the qualifications necessary for a bank to be classified as "well-capitalized" (as discussed in "Item 1. Business—Supervision and Regulation—Prompt Corrective Action Framework"), primarily for assignment of FDIC insurance premium rates. Failure to qualify as "well-capitalized" can negatively impact a bank's ability to expand and to engage in certain activities. The Company and the Bank qualified as "well-capitalized" at December 31, 2022 and 2021.

As part of their response to the impact of COVID-19, the U.S. federal regulatory agencies issued an interim final rule that provided the option to temporarily delay certain effects of CECL on regulatory capital for two years, followed by a three year transition period. The interim final rule allows bank holding companies and banks to delay for two years 100% of the day one impact of adopting CECL and 25% of the cumulative change in the reported allowance for credit losses since adopting CECL. The Company elected to adopt the interim final rule. As a result, certain capital ratios and amounts as of December 31, 2022 exclude the impact of the increased allowance for credit losses related to the adoption of CECL.

The following table sets forth the Company's and the Bank's capital ratios at December 31, 2022 and 2021:

	Company		Columbia Bank	
	2022	2021	2022	2021
CET1 risk-based capital ratio	12.87 %	13.01 %	12.93 %	13.06 %
Tier 1 risk-based capital ratio	12.87 %	13.01 %	12.93 %	13.06 %
Total risk-based capital ratio	13.98 %	14.21 %	13.97 %	14.18 %
Leverage ratio	9.34 %	8.55 %	9.47 %	8.60 %

Dividends

The following table sets forth the dividends paid per common share and the dividend payout ratio (dividends paid per common share divided by diluted EPS):

	Years ended December 31,		
	2022	2021	2020
Dividends paid per common share - regular	\$ 1.20	\$ 1.14	\$ 1.12
Dividends paid per common share - special	—	—	0.22
Dividends paid per common share	\$ 1.20	\$ 1.14	\$ 1.34
Dividend payout ratio (1)	38 %	41 %	62 %

(1) Dividends paid per common share as a percentage of earnings per diluted common share

Subsequent to year end, on January 24, 2023, the Company declared a quarterly cash dividend of \$0.30 per share payable on February 21, 2023, to shareholders of record at the close of business on February 6, 2023.

Applicable federal and Washington state regulations restrict capital distributions, including dividends, by the Company's banking subsidiary. Such restrictions are tied to the institution's capital levels after giving effect to distributions. Our ability to pay cash dividends is substantially dependent upon receipt of dividends from the Bank. In addition, the payment of cash dividends is subject to Federal regulatory requirements for capital levels and other restrictions. In this regard, current guidance from the Federal Reserve provides, among other things, that dividends per share on the Company's common stock generally should not exceed EPS, measured over the previous four fiscal quarters. Federal Reserve policy also provides that a bank holding company should inform the Federal Reserve reasonably in advance of declaring or paying a dividend that exceeds earnings for the period for which the dividend is being paid or that could result in a material adverse change to the bank holding company's capital structure.

Non-GAAP Financial Measures

In addition to the capital ratios defined by banking regulators, the Company considers various measures when evaluating capital utilization and adequacy, including:

- Tangible common equity to tangible assets, and
- Tangible common equity to risk-weighted assets.

The Company believes these measures are useful because they reflect the level of capital available to withstand unexpected market conditions. Additionally, presentation of these measures allows readers to compare certain aspects of the Company's capitalization to other organizations. These ratios differ from capital measures defined by banking regulators principally in that the numerator excludes shareholders' equity associated with preferred securities, the nature and extent of which varies across organizations. Additionally, these measures present capital adequacy inclusive and exclusive of accumulated other comprehensive income. These calculations are intended to complement the capital ratios defined by banking regulators for both absolute and comparative purposes.

Because GAAP in the United States of America does not include capital ratio measures, the Company believes there are no comparable GAAP financial measures to these tangible common equity ratios. The following table reconciles the Company's calculation of these measures to amounts reported under GAAP.

Despite the importance of these measures to the Company, there are no standardized definitions for them and, as a result, the Company's calculations may not be comparable with other organizations. The Company encourages readers to consider its Consolidated Financial Statements in their entirety and not to rely on any single financial measure.

	December 31,	
	2022	2021
	<i>(dollars in thousands)</i>	
Shareholders' equity	\$ 2,213,153	\$ 2,588,742
Goodwill	(823,172)	(823,172)
Other intangible assets, net	(25,949)	(34,647)
Tangible common equity (a)	<u>1,364,032</u>	<u>1,730,923</u>
Total assets	20,265,843	20,945,333
Goodwill	(823,172)	(823,172)
Other intangible assets, net	(25,949)	(34,647)
Tangible assets (b)	<u>\$ 19,416,722</u>	<u>\$ 20,087,514</u>
Risk-weighted assets, determined in accordance with prescribed regulatory requirements (c)	\$ 14,649,966	\$ 13,146,341
Ratios:		
Tangible common equity to tangible assets (a)/(b)	7.03 %	8.62 %
Tangible common equity to risk-weighted assets (a)/(c)	9.31 %	13.17 %

The Company also considers operating net interest margin (tax equivalent) to be a useful measurement as it closely reflects the ongoing operating performance of the Company. Additionally, presentation of the operating net interest margin allows readers to compare certain aspects of the Company's net interest margin to other organizations that may not have had significant acquisitions. Despite the usefulness of the operating net interest margin to the Company, there is no standardized definition for it and, as a result, the Company's calculations may not be comparable with other organizations. The Company encourages readers to consider its Consolidated Financial Statements in their entirety and not to rely on any single financial measure.

The following table reconciles the Company's calculation of the operating net interest margin (tax equivalent) to the net interest margin (tax equivalent) for the periods indicated:

	Years ended December 31,		
	2022	2021	2020
Operating net interest margin non-GAAP reconciliation:	<i>(dollars in thousands)</i>		
Net interest income (tax equivalent) (1)	\$ 631,058	\$ 535,311	\$ 507,574
Adjustments to arrive at operating net interest income (tax equivalent):			
Incremental accretion income on acquired loans	3,943	(2,811)	(6,154)
Premium amortization on acquired securities	3,852	2,752	3,409
Interest reversals on nonaccrual loans (2)	—	—	2,000
Operating net interest income (tax equivalent) (1)	\$ 638,853	\$ 535,252	\$ 506,829
Average interest earning assets	\$ 18,868,795	\$ 16,910,818	\$ 13,916,611
Net interest margin (tax equivalent) (1)	3.34 %	3.17 %	3.65 %
Operating net interest margin (tax equivalent) (1)	3.39 %	3.17 %	3.64 %

(1) Tax-exempt interest income has been adjusted to a tax equivalent basis. The amount of such adjustment was an addition to net interest income of \$8.2 million, \$7.8 million and \$7.5 million for the years ended December 31, 2022, 2021 and 2020, respectively.

(2) Beginning 2021, interest reversals on nonaccrual loans is no longer a component of this non-GAAP measure.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Interest Rate Sensitivity

We are exposed to interest rate risk, which is the risk that changes in prevailing interest rates will adversely affect assets, liabilities, capital, income and expenses at different times or in different amounts. Generally, there are four sources of interest rate risk as described below:

Repricing risk—Repricing risk is the risk of adverse consequences from a change in interest rates that arises because of differences in the timing of when those interest rate changes affect an institution’s assets and liabilities.

Basis risk—Basis risk is the risk of adverse consequence resulting from unequal changes in the spread between two or more rates for different instruments with the same maturity.

Yield curve risk—Yield curve risk is the risk of adverse consequence resulting from unequal changes in the spread between two or more rates for different maturities for the same instrument.

Option risk—In banking, option risks are known as borrower options to prepay loans and depositor options to make deposits, withdrawals, and early redemptions. Option risk arises whenever bank products give customers the right, but not the obligation, to alter the quantity or the timing of cash flows. Option risk is also present in the investment portfolio as mortgage-backed securities could prepay or callable bonds could be called.

An Asset/Liability Management Committee is responsible for developing, monitoring and reviewing asset/liability processes, interest rate risk exposures, strategies and tactics and reporting to the board of directors. It is the responsibility of the board of directors to establish policies and interest rate limits and approve these policies and interest rate limits annually. It is the responsibility of management to execute the approved policies, develop and implement risk management strategies and to report to the board of directors on a regular basis. We maintain an asset/liability management policy that provides guidelines for controlling exposure to interest rate risk. The policy guidelines direct management to assess the impact of changes in interest rates upon both earnings and capital. The guidelines establish limits for interest rate risk sensitivity.

Interest Rate Risk Sensitivity

We use a number of measures are used to monitor and manage interest rate risk, including income simulations and interest sensitivity (gap) analysis. An income simulation model is the primary tool used to assess the direction and magnitude of changes in net interest income resulting from changes in interest rates. Basic assumptions in the model include prepayment speeds on mortgage-related assets, cash flows and maturities of other investment securities, loan and deposit volumes and pricing. These assumptions are inherently subjective and may not be realized and, as a result, actual results will differ from our projections. In addition, variances in the timing, magnitude and frequency of interest rate changes, overall market conditions including volumes and pricing, changes in management strategies, among other factors will also result in variances between projected and actual results.

The following table summarizes the expected impact on net interest income over a one or two year period if interest rates gradually increased or decreased during the first year, based on the results of the simulation model as of December 31, 2022:

Change in basis points (bps)	Year one		Year two	
	Change in net interest income	% Change in net interest income	Change in net interest income	% Change in net interest income
	<i>(dollars in thousands)</i>			
+200	\$ 6,420	0.99 %	\$ 43,017	6.27 %
-100	\$ (6,445)	(0.99)%	\$ (31,589)	(4.61)%

The following table summarizes the expected impact on net interest income over a one or two year period if interest rates instantaneously increased or decreased, based on the results of the simulation model as of December 31, 2022:

Change in basis points (bps)	Year one		Year two	
	Change in net interest income	% Change in net interest income	Change in net interest income	% Change in net interest income
	<i>(dollars in thousands)</i>			
+200	\$ 18,971	2.93 %	\$ 62,062	9.05 %
-100	\$ (19,518)	(3.01)%	\$ (41,788)	(6.09)%

The projections are based on the current interest rate environment and a stable balance sheet. Market interest rates increased substantially during 2022 with short-term interest rates increasing substantially more than long-term interest rates resulting in an inverted yield curve at year end. Due to the rise in short-term interest rates, the majority of our floating rate loans are no longer constrained by interest rate floors. However our ability to reprice deposits downward is still limited given our low cost of funds.

Our asset sensitivity decreased since the prior quarter and year ends mainly due to the decline in deposits during the quarter and the corresponding increase in short-term FHLB borrowings. Balance sheet projections for this analysis include the sales of branches and a corresponding increase in borrowings. The net impact of the change in funding mix was a decrease in the duration of funding, which reduced the net interest income benefits of rising interest rates but also reduced our exposure to falling interest rates. Prudent management of deposit rates and balances will be the key driver in realizing the projected asset sensitivity.

Net interest income sensitivity excludes the amortization of premiums, discounts and deferred fees on the existing loan portfolio although the amortization of the collar is included in loan interest income.

On January 23, 2019, the Company entered into an interest rate collar derivative transaction with a \$500.0 million notional based on 1-month LIBOR. In October 2020, the collar was terminated and resulted in a \$34.4 million realized gain that was recorded in accumulated other comprehensive income, net of deferred income taxes. The gain will amortize into interest income through February 2024, which is in line with the initial term of the interest rate collar. The gain will be amortized in this manner as long as the cash flows pertaining to the hedged item are expected to occur.

The analysis of an institution's interest rate gap (the difference between the repricing of interest-earning assets and interest-bearing liabilities during a given period of time) is one standard tool for the measurement of the exposure to interest rate risk. We believe that because interest rate gap analysis does not address all factors that can affect earnings performance, it should be used in conjunction with other methods of evaluating interest rate risk.

The table on the following page sets forth the estimated maturity or repricing, and the resulting interest rate gap of our interest-earning assets and interest-bearing liabilities at December 31, 2022. The amounts in the table are derived from our internal data and are based upon SEC reporting formats. Therefore, they may not be consistent with financial information appearing elsewhere herein that has been prepared in accordance with accounting principles generally accepted in the United States.

The estimates for net interest income sensitivity and interest rate gap could be significantly affected by external factors such as changes in prepayment assumptions, early withdrawal of deposits and competition. For example, although certain assets and liabilities may have similar maturities or periods to repricing, they may react in different degrees to changes in market interest rates. Also, the interest rates on certain types of assets and liabilities may fluctuate in advance of changes in market interest rates, while other types may lag changes in market interest rates.

Additionally, certain assets, such as adjustable-rate mortgages, have features that restrict changes in the interest rates of such assets both on a short-term basis and over the lives of such assets. Further, in the event of a change in market interest rates, prepayment and early withdrawal levels could deviate significantly from those assumed in calculating the tables. Finally, the ability of many borrowers to service their adjustable-rate debt may decrease in the event of a substantial increase in market interest rates.

December 31, 2022	Estimated Maturity or Repricing				
	0-3 months	4-12 months	Over 1 year through 5 years	Due after 5 years	Total
	<i>(dollars in thousands)</i>				
Interest-Earning Assets					
Interest-earning deposits	\$ 29,283	\$ —	\$ —	\$ —	\$ 29,283
Loans, net of deferred fees	3,978,005	1,127,424	4,392,671	2,112,873	11,610,973
Loans held for sale	76,843	—	—	—	76,843
Investments	167,010	418,387	2,673,919	3,426,160	6,685,476
Total interest-earning assets	<u>\$ 4,251,141</u>	<u>\$ 1,545,811</u>	<u>\$ 7,066,590</u>	<u>\$ 5,539,033</u>	<u>18,402,575</u>
ACL					(158,438)
Cash and due from banks					262,458
Premises and equipment, net					160,578
Other assets					1,598,670
Total assets					<u>\$ 20,265,843</u>
Interest-Bearing Liabilities					
Interest-bearing non-maturity deposits	\$ 7,976,013	\$ —	\$ —	\$ —	\$ 7,976,013
Time deposits	155,589	111,284	95,203	11	362,087
Subordinated debentures	10,000	—	—	—	10,000
Borrowings	1,054,478	15	—	5,300	1,059,793
Total interest-bearing liabilities	<u>\$ 9,196,080</u>	<u>\$ 111,299</u>	<u>\$ 95,203</u>	<u>\$ 5,311</u>	<u>9,407,893</u>
Other liabilities					8,644,797
Total liabilities					<u>18,052,690</u>
Shareholders' equity					2,213,153
Total liabilities and shareholders' equity					<u>\$ 20,265,843</u>
Interest-bearing liabilities as a percent of total interest-earning assets	49.97 %	0.60 %	0.52 %	0.03 %	
Rate sensitivity gap	\$ (4,944,939)	\$ 1,434,512	\$ 6,971,387	\$ 5,533,722	
Cumulative rate sensitivity gap	\$ (4,944,939)	\$ (3,510,427)	\$ 3,460,960	\$ 8,994,682	
Rate sensitivity gap as a percentage of interest-earning assets	(26.87)%	7.80 %	37.88 %	30.07 %	
Cumulative rate sensitivity gap as a percentage of interest-earning assets	(26.87)%	(19.08)%	18.81 %	48.88 %	

Impact of Inflation and Changing Prices

The impact of inflation on our operations is increased operating costs. Unlike most industrial companies, virtually all the assets and liabilities of a financial institution are monetary in nature. As a result, interest rates generally have a more significant impact on a financial institution's performance than the effect of general levels of inflation. Although interest rates do not necessarily move in the same direction or to the same extent as the prices of goods and services, increases in inflation generally have resulted in increased interest rates.

LIBOR Transition

Management has discontinued use of LIBOR in new contracts, including loans, investment securities and interest rate derivatives. Current actions include the implementation of substitute language for legacy LIBOR-based loans to transition to SOFR before June 2023, at which point LIBOR will no longer be an option for Columbia Bank to use. This is likely to require some additional costs and litigation risk may rise with contract renewals. We are in discussions with our counterparties and tracking industry developments to ensure a smooth transition for clients and competitive loan pricing.

Please refer to [Note 17 to the Consolidated Financial Statements in "Item 8. Financial Statements and Supplementary Data"](#) of this report for further information regarding the interest rate derivatives. As the FASB and the IRS have proposed hedge accounting and taxation relief with regards to the transition, the Company does not anticipate any material impact to our Consolidated Financial Statements as a result of the transition away from LIBOR.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the shareholders and the Board of Directors of Columbia Banking System, Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Columbia Banking System, Inc. and subsidiaries (the "Company") as of December 31, 2022 and 2021, the related consolidated statements of income, comprehensive income, shareholders' equity, and cash flows for each of the three years in the period ended December 31, 2022, and the related notes (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2022 and 2021, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2022, in conformity with accounting principles generally accepted in the United States of America.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2022, based on criteria established in Internal Control — Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission and our report dated February 24, 2023, expressed an unqualified opinion on the Company's internal control over financial reporting.

Basis for Opinion

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

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

Critical Audit Matters

The critical audit matter communicated below is a matter arising from the current-period audit of the financial statements that was communicated or required to be communicated to the Company's Audit Committee and that (1) relates to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing separate opinions on the critical audit matter or on the accounts or disclosures to which it relates.

Allowance for Credit Losses - Refer to Notes 1 and 6 to the financial statements

Critical Audit Matter Description

The Company estimates its allowance for credit losses (ACL) using information derived from both internal and external sources, relating to past events, current conditions, and reasonable and supportable forecasts. Specifically, the Company measures reserves on a collective (pool) basis for all loan classes with similar risk characteristics, using a quantitative discounted cash flows model that is then qualitatively adjusted for large loan concentrations, policy exemptions granted, and other factors. The quantitative model utilizes anticipated period cash flows determined on a loan-level basis. The anticipated cash flows take into account contractual principal and interest payments, anticipated segment level prepayments, probability of defaults and historical loss given defaults. The majority of the loan classes utilize regression models to calculate probability of defaults, in which macroeconomic factors are correlated to historical quarterly defaults. The Company utilizes an 18-month forecast for the macroeconomic factors, after which the probability of default reverts to its historical mean using a straight-line basis. As of December 31, 2022, the ACL was \$158.4 million.

Significant management judgments are required in determining whether, and to what extent, qualitative adjustments for each portfolio loan class are required and the selection of the reasonable and supportable forecasts of future economic conditions. The subjectivity of the judgments made in selecting qualitative adjustments and the forecasts for the macroeconomic factors remains elevated due to continued economic volatility.

Given the size of the loan portfolio and the subjective nature of estimating the ACL, particularly the estimate of qualitative adjustments and selection of forecasts for the macroeconomic factors, auditing the ACL involved a high degree of auditor judgement requiring significant effort and included the need to involve credit specialists.

How the Critical Audit Matter Was Addressed in the Audit

Our audit procedures related to the ACL for the loan portfolio, included the following, among others:

- We tested the design and operating effectiveness of controls over the execution and monitoring of the quantitative model, selection of the forecast, determination of qualitative adjustments to the modeled reserves and the overall calculation and disclosure of the ACL.
- We evaluated the reasonableness of the quantitative discounted cash flows model and related assumptions, assessed the reasonableness of the design and logic of the model, tested the accuracy of the data input into the model, and tested the mathematical accuracy of the model's calculations.
- We evaluated the reasonableness of management's assessment, determination, and application of the qualitative framework used to determine adjustments to the modeled reserves and tested the mathematical accuracy of the qualitative adjustments.
- We used credit specialists to assist us in evaluating the quantitative discounted cash flows model and the framework for certain qualitative adjustments to that model.
- We evaluated the reasonableness of the Company's macroeconomic assumptions and judgments in estimating future credit losses, including the selection of forecasted macroeconomic assumptions and considerations of alternative forecasted macroeconomic scenarios. This included obtaining independent macroeconomic forecasts and evaluating any contradictory evidence.
- We tested the mathematical accuracy of the macroeconomic factors selected and the impact on the probability of default calculations, including evaluating the magnitude of change in the quantitative allowance attributable to changes in the selected macroeconomic forecasts.

/s/ Deloitte & Touche LLP

February 24, 2023

Seattle, Washington

We have served as the Company's auditor since 1997.

COLUMBIA BANKING SYSTEM, INC.
CONSOLIDATED BALANCE SHEETS

	December 31,	
	2022	2021
	<i>(in thousands)</i>	
ASSETS		
Cash and due from banks	\$ 262,458	\$ 153,414
Interest-earning deposits with banks	29,283	671,300
Total cash and cash equivalents	291,741	824,714
Debt securities available for sale at fair value (amortized cost of \$5,282,846 and \$5,898,041, respectively)	4,589,099	5,910,999
Debt securities held to maturity at amortized cost (fair value of \$1,722,778 and \$2,122,606, respectively)	2,034,792	2,148,327
Equity securities	13,425	13,425
FHLB stock at cost	48,160	10,280
Loans held for sale (includes \$907 and \$9,570, respectively, measured at fair value) (1)	76,843	9,774
Loans, net of unearned income	11,610,973	10,641,937
Less: ACL	158,438	155,578
Loans, net	11,452,535	10,486,359
Interest receivable	64,908	56,019
Premises and equipment, net	160,578	172,144
OREO	—	381
Goodwill	823,172	823,172
Other intangible assets, net	25,949	34,647
Other assets	684,641	455,092
Total assets	\$ 20,265,843	\$ 20,945,333
LIABILITIES AND SHAREHOLDERS' EQUITY		
Deposits:		
Noninterest-bearing (includes \$259,360 at December 31, 2022 classified as held for sale)	\$ 8,373,350	\$ 8,856,714
Interest-bearing (includes \$325,696 at December 31, 2022 classified as held for sale)	8,338,100	9,153,401
Total deposits	16,711,450	18,010,115
FHLB advances	954,315	7,359
Securities sold under agreements to repurchase	95,168	86,013
Subordinated debentures	10,000	10,000
Junior subordinated debentures	10,310	10,310
Other liabilities	271,447	232,794
Total liabilities	18,052,690	18,356,591
Commitments and contingent liabilities (Note 19)		
Shareholders' equity:		
	December 31,	
	2022	2021
	<i>(in thousands)</i>	
Preferred stock (no par value)		
Authorized shares	2,000	2,000
Common stock (no par value)		
Authorized shares	115,000	115,000
Issued	80,830	80,695
Outstanding	78,646	78,511
Retained earnings	850,011	694,227
Accumulated other comprehensive income (loss)	(510,495)	35,162
Treasury stock at cost	2,184	2,184
Total shareholders' equity	2,213,153	2,588,742
Total liabilities and shareholders' equity	\$ 20,265,843	\$ 20,945,333

(1) Amounts represent loans for which the Company has elected the fair value option. The remaining loans held for sale at December 31, 2022 relate to our pending divestitures and are held at the lower of cost or market value.

See accompanying Notes to Consolidated Financial Statements.

COLUMBIA BANKING SYSTEM, INC.

CONSOLIDATED STATEMENTS OF INCOME

	Years ended December 31,		
	2022	2021	2020
	<i>(in thousands except per share amounts)</i>		
Interest Income			
Loans	\$ 495,829	\$ 415,770	\$ 426,003
Taxable securities	133,084	107,594	81,578
Tax-exempt securities	14,820	11,746	9,567
Deposits in banks	2,748	955	661
Total interest income	646,481	536,065	517,809
Interest Expense			
Deposits	16,533	6,186	9,367
FHLB advances and FRB borrowings	4,659	291	6,264
Subordinated debentures	807	1,932	1,871
Other borrowings	1,646	137	196
Total interest expense	23,645	8,546	17,698
Net Interest Income			
Provision for credit losses	1,950	4,800	77,700
Net interest income after provision for credit losses	620,886	527,519	422,411
Noninterest Income			
Deposit account and treasury management fees	31,498	27,107	27,019
Card revenue	20,186	18,503	13,928
Financial services and trust revenue	17,659	15,753	12,830
Loan revenue	12,582	22,044	24,802
Bank owned life insurance	7,636	6,533	6,418
Investment securities gains (losses), net	(9)	314	16,710
Other	9,592	3,840	2,793
Total noninterest income	99,144	94,094	104,500
Noninterest Expense			
Compensation and employee benefits	241,139	224,034	209,722
Occupancy	41,150	37,815	36,013
Data processing and software	41,117	33,498	29,449
Legal and professional fees	20,578	18,910	12,158
Amortization of intangibles	8,698	7,987	8,724
B&O taxes	6,797	5,903	4,970
Advertising and promotion	3,962	3,383	4,466
Regulatory premiums	6,619	4,912	2,956
Net cost (benefit) of operation of OREO	114	66	(315)
Other	32,209	23,796	26,376
Total noninterest expense	402,383	360,304	334,519
Income before income taxes	317,647	256,509	192,392
Income tax provision	67,469	53,689	38,148
Net Income	\$ 250,178	\$ 202,820	\$ 154,244
Earnings Per Common Share			
Basic	\$ 3.20	\$ 2.79	\$ 2.17
Diluted	\$ 3.20	\$ 2.78	\$ 2.17
Weighted average number of common shares outstanding	78,047	72,683	70,835
Weighted average number of diluted common shares outstanding	78,193	72,873	70,880

See accompanying Notes to Consolidated Financial Statements.

COLUMBIA BANKING SYSTEM, INC.

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

	Years ended December 31,		
	2022	2021	2020
	<i>(in thousands)</i>		
Net income	\$ 250,178	\$ 202,820	\$ 154,244
Other comprehensive income (loss), net of tax:			
Unrealized gain (loss) from securities:			
Net unrealized holding gain (loss) from available for sale debt securities arising during the period, net of tax of \$170,452, \$41,647 and \$(39,489)	(536,262)	(137,482)	130,355
Reclassification adjustment of net (gain) loss from available for sale debt securities arising during the period, net of tax of \$(2), \$73 and \$66	7	(242)	(219)
Amortization of net unrealized gain for the reclassification of available for sale securities to held to maturity, net of tax of \$1,740, \$702 and \$—	(6,074)	(2,316)	—
Net unrealized gain (loss) from available for sale debt securities, net of reclassification adjustment	(542,329)	(140,040)	130,136
Pension plan liability adjustment:			
Unrecognized net actuarial gain (loss) and plan amendments during the period, net of tax of \$(1,317), \$(170) and \$659	4,533	562	(2,177)
Less: amortization of unrecognized net actuarial losses included in net periodic pension cost, net of tax of \$(122), \$(139) and \$(96)	402	459	318
Pension plan liability adjustment, net	4,935	1,021	(1,859)
Unrealized gain from cash flow hedging instruments:			
Net unrealized gain in cash flow hedging instruments arising during the period, net of tax of \$—, \$— and \$(6,062)	—	—	20,012
Reclassification adjustment for net gain in cash flow hedging instruments included in income, net of tax of \$2,178, \$2,427 and \$1,957	(8,263)	(8,014)	(6,461)
Net unrealized gain (loss) from cash flow hedging instruments, net of reclassification adjustment	(8,263)	(8,014)	13,551
Other comprehensive income (loss)	(545,657)	(147,033)	141,828
Total comprehensive income (loss)	\$ (295,479)	\$ 55,787	\$ 296,072

See accompanying Notes to Consolidated Financial Statements.

COLUMBIA BANKING SYSTEM, INC.
CONSOLIDATED STATEMENTS OF CHANGES IN SHAREHOLDERS' EQUITY

	Common Stock		Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Treasury Stock	Total Shareholders' Equity
	Number of Shares	Amount				
<i>(in thousands, except per share amounts)</i>						
Balance at January 1, 2020	72,124	\$ 1,650,753	\$ 519,676	\$ 40,367	\$ (50,834)	\$ 2,159,962
Adjustment to opening retained earnings pursuant to adoption of ASU 2016-13	—	—	(2,457)	—	—	(2,457)
Net income	—	—	154,244	—	—	154,244
Other comprehensive income	—	—	—	141,828	—	141,828
Issuance of common stock - employee stock purchase plan	65	2,028	—	—	—	2,028
Issuance of common stock - RSAs and RSUs, net of canceled awards	208	10,737	—	—	—	10,737
Activity in deferred compensation plan	—	2	—	—	—	2
Purchase and retirement of common stock	(68)	(2,522)	—	—	—	(2,522)
Cash dividends declared on common stock (\$1.34 per share)	—	—	(96,215)	—	—	(96,215)
Purchase of treasury stock	(731)	—	—	—	(20,000)	(20,000)
Balance at December 31, 2020	71,598	\$ 1,660,998	\$ 575,248	\$ 182,195	\$ (70,834)	\$ 2,347,607
Net income	—	—	202,820	—	—	202,820
Other comprehensive loss	—	—	—	(147,033)	—	(147,033)
Issuance of common stock - acquisition related	6,740	256,061	—	—	—	256,061
Issuance of common stock - employee stock purchase plan	74	2,350	—	—	—	2,350
Issuance of common stock - RSAs and RSUs, net of canceled awards	190	14,926	—	—	—	14,926
Activity in deferred compensation plan	—	(8)	—	—	—	(8)
Purchase and retirement of common stock	(91)	(4,140)	—	—	—	(4,140)
Cash dividends declared on common stock (\$1.14 per share)	—	—	(83,841)	—	—	(83,841)
Balance at December 31, 2021	78,511	\$ 1,930,187	\$ 694,227	\$ 35,162	\$ (70,834)	\$ 2,588,742
Net income	—	—	250,178	—	—	250,178
Other comprehensive loss	—	—	—	(545,657)	—	(545,657)
Issuance of common stock - employee stock purchase plan	69	2,110	—	—	—	2,110
Issuance of common stock - RSAs and RSUs, net of canceled awards	176	16,158	—	—	—	16,158
Activity in deferred compensation plan	—	5	—	—	—	5
Purchase and retirement of common stock	(110)	(3,989)	—	—	—	(3,989)
Cash dividends declared on common stock (\$1.20 per share)	—	—	(94,394)	—	—	(94,394)
Balance at December 31, 2022	78,646	\$ 1,944,471	\$ 850,011	\$ (510,495)	\$ (70,834)	\$ 2,213,153

See accompanying Notes to Consolidated Financial Statements.

COLUMBIA BANKING SYSTEM, INC.

CONSOLIDATED STATEMENTS OF CASH FLOWS

	Years Ended December 31,		
	2022	2021	2020
	<i>(in thousands)</i>		
Cash Flows From Operating Activities			
Net income	\$ 250,178	\$ 202,820	\$ 154,244
Adjustments to reconcile net income to net cash provided by operating activities			
Provision for credit losses	1,950	4,800	77,700
Stock-based compensation expense	16,158	14,926	10,737
Depreciation, amortization and accretion	49,018	23,168	14,893
Investment securities loss (gain), net	9	(314)	(16,710)
Net realized gain on sale of premises and equipment, loans held for investment and OPPO	(4,777)	(500)	(1,334)
Net realized loss (gain) on sale and valuation adjustments of OREO	181	40	(34)
Gain on bank owned life insurance death benefit	(965)	(344)	—
Originations of loans held for sale	(116,463)	(336,455)	(491,385)
Proceeds from sales of loans held for sale	125,161	352,823	483,130
Change in fair value of loans held for sale	169	339	(508)
Deferred income tax (benefit)	(6,113)	(6,629)	(13,768)
Net change in:			
Interest receivable	(8,889)	4,049	(7,992)
Interest payable	1,485	62	(933)
Other assets	(35,491)	6,815	(48,539)
Other liabilities	29,073	(30,535)	32,791
Net cash provided by operating activities	300,684	235,065	192,292
Cash Flows From Investing Activities			
Loans originated, net of principal collected	(1,061,878)	174,463	(619,543)
Investment in low income housing tax credit partnerships	(2,850)	(1,408)	—
Purchases of:			
Debt securities available for sale	(186,547)	(3,128,233)	(2,118,667)
Debt securities held to maturity	(97,658)	(257,503)	—
Loans held for investment	—	(279,734)	(50,035)
Premises and equipment	(7,210)	(6,125)	(8,720)
FHLB stock	(68,841)	(1)	(53,240)
Proceeds from:			
Sales of debt securities available for sale	741	89,219	194,697
Sales of equity securities	—	—	3,000
Principal repayments and maturities of securities available for sale	769,991	764,253	603,129
Principal repayments and maturities of debt securities held to maturity	188,445	107,578	—
Sales of premises and equipment and loans held for investment	37,001	15,880	2,948
Redemption of FHLB stock	30,961	7,464	91,080
Sales of OREO and OPPO	200	132	1,074
Bank owned life insurance death benefit	1,955	671	1,050
Termination of cash flow hedging instrument	—	—	34,442
Net cash received in business combinations	—	154,984	—
Net cash used in investing activities	(395,690)	(2,358,360)	(1,918,785)

COLUMBIA BANKING SYSTEM, INC.

CONSOLIDATED STATEMENTS OF CASH FLOWS, continued

	Years Ended December 31,		
	2022	2021	2020
	<i>(in thousands)</i>		
Cash Flows From Financing Activities			
Net increase (decrease) in deposits	(1,297,929)	2,402,669	3,185,167
Net increase in sweep repurchase agreements	9,155	12,154	9,422
Proceeds from:			
Employee stock purchase plan	2,110	2,350	2,028
FHLB advances	2,928,030	30	1,331,000
FRB borrowings	210,030	40	222,010
Other borrowings	100	—	9,222
Payments for:			
FHLB advances	(1,981,030)	(30)	(2,277,000)
FRB borrowings	(210,030)	(40)	(222,010)
Other borrowings	(100)	—	(9,222)
Common stock dividends	(94,314)	(83,790)	(95,509)
Repayment of subordinated debentures	—	(35,000)	—
Purchase of treasury stock	—	—	(20,000)
Purchase and retirement of common stock	(3,989)	(4,140)	(2,522)
Net cash provided by (used in) financing activities	(437,967)	2,294,243	2,132,586
Increase (decrease) in cash and cash equivalents	(532,973)	170,948	406,093
Cash and cash equivalents at beginning of period	824,714	653,766	247,673
Cash and cash equivalents at end of period	\$ 291,741	\$ 824,714	\$ 653,766
Supplemental Information:			
Interest paid	\$ 22,160	\$ 8,484	\$ 18,631
Income taxes paid, net of refunds	\$ 72,989	\$ 60,562	\$ 43,287
Non-cash investing and financing activities:			
Transfer of debt securities available for sale to debt securities held to maturity	\$ —	\$ 2,012,123	\$ —
Transfer of loans held for investment to loans held for sale	\$ 75,936	\$ —	\$ —
Loans transferred to OREO	\$ —	\$ —	\$ 1,033
Common stock issued in connection with acquisition	\$ —	\$ 256,061	\$ —
Premises and equipment expenditures incurred but not yet paid	\$ 71	\$ 63	\$ 302
Change in dividends payable on unvested shares included in other liabilities	\$ 80	\$ 51	\$ 706

See accompanying Notes to Consolidated Financial Statements.

COLUMBIA BANKING SYSTEM, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
For the Years Ended December 31, 2022, 2021 and 2020

1. Summary of Significant Accounting Policies

Organization

Columbia Banking System, Inc. (the “Corporation,” “we,” “our,” “Columbia” or the “Company”) is the holding company for Columbia State Bank (“Columbia Bank” or the “Bank”) and Columbia Trust Company (“Columbia Trust”). The Bank provides a full range of financial services through 152 branch locations, including 67 in the State of Washington, 59 in Oregon, 15 in Idaho and 11 in California. Columbia Trust provides fiduciary, agency, trust and related services, and life insurance products. Because the Bank comprises substantially all of the business of the Corporation, references to the “Company” mean the Corporation, the Bank and Columbia Trust together. The Corporation is approved as a bank holding company pursuant to the Gramm-Leach-Bliley Act of 1999.

Basis of Presentation

The Company’s accounting and reporting policies conform to GAAP and practices in the financial services industry. To prepare the financial statements in conformity with GAAP, management must make estimates and assumptions that affect the reported amounts of assets and liabilities at the date of the financial statements, and income and expenses during the reporting period. Circumstances and events that differ significantly from those underlying our estimates and assumptions could cause actual financial results to differ from our estimates. The most significant estimates included in the financial statements relate to the ACL, business combinations and goodwill impairment.

Consolidation

The Consolidated Financial Statements of the Company include the accounts of the Corporation and its subsidiaries, including the Bank and Columbia Trust. Intercompany balances and transactions have been eliminated in consolidation.

Cash and cash equivalents

Cash and cash equivalents include cash and due from banks, and interest-bearing balances due from correspondent banks and the FRB. Cash equivalents have a maturity of 90 days or less at the time of purchase.

Securities

Debt securities are classified based on management’s intention on the date of purchase. The Company has debt securities that are classified as AFS and are presented at fair value and debt securities classified as HTM that are presented at amortized cost. Realized gains or losses on sales of debt securities AFS, determined on the basis of the cost of specific securities sold, are included in earnings. Unrealized gains or losses on debt securities AFS are excluded from net income but are included in other comprehensive income as a separate component of shareholders' equity, net of tax. Purchase premiums or discounts on debt securities AFS are amortized or accreted into income using the interest method over the terms of the individual securities.

The Company performs a quarterly assessment to determine whether a decline in fair value below amortized cost exists. Amortized cost includes adjustments made to the cost of an investment for accretion, amortization, collection of cash and previous credit losses recognized in earnings.

When the fair value of an AFS debt security falls below the amortized cost basis, it is evaluated to determine if any of the decline in value is attributable to credit loss. Decreases in fair value attributable to credit loss would be recorded directly to earnings with a corresponding allowance for credit losses, limited by the amount that the fair value is less than the amortized cost basis. If the credit quality subsequently improves the allowance would be reversed up to a maximum of the previously recorded credit losses. If the Company intends to sell an impaired AFS debt security, or if it is more likely than not that the Company will be required to sell the security prior to recovering the amortized cost basis, the entire fair value adjustment would be immediately recognized in earnings with no corresponding allowance for credit losses.

Our equity securities currently consist of Visa Class B restricted stock which do not have readily determinable fair values. These securities are accounted for at cost minus impairment, if any, plus or minus changes resulting from observable price changes in orderly transactions for the identical or similar investment of the same issuer. Any adjustments to the carrying value of these investments are recorded in Investment securities gains (losses), net in the Consolidated Statements of Income.

Federal Home Loan Bank Stock

The Company holds shares of Class B stock issued by the FHLB, which has been designated as FHLB membership stock or FHLB activity based stock in accordance with the capital plan of the FHLB. Membership stock is stock we are required to purchase and hold as a condition of membership in the FHLB. The Company's membership stock purchase requirement is measured as a percentage of our year end assets, subject to a \$10 million cap. Class B stock may be redeemed, subject to certain limitations, on five years' written notice to the FHLB. Activity based stock is stock we are required to purchase and hold in order to obtain an advance or participate in FHLB mortgage programs. The Company's activity based stock purchase requirement is measured as a percentage of our advance proceeds. Our FHLB stock is carried at par value because the shares are issued, transferred, redeemed, and repurchased by the FHLB at a par value of \$100. The FHLB stock is subject to recoverability testing per the Financial Services-Depository and Lending topic of the FASB ASC.

Loans held for sale

One-to-four family residential real estate loans originated with the intent to be sold in the secondary market are considered held for sale. One-to-four family residential real estate loans under best efforts delivery commitments are carried at the lower of amortized cost or fair value. There are no economic hedges on these loans. Due to the short period of time between the origination and sale of these loans, the carrying amount of these loans approximates fair value. For one-to-four family residential real estate loans under mandatory delivery commitments, the Company has elected to account for these loans at fair value. The use of the fair value option allows the change in the fair value of the loans to more effectively offset the change in the fair value of derivative instruments that are used as economic hedges for these loans held for sale. Loan origination fees and direct origination costs are recognized immediately in net income. Interest income on loans held for sale is included in interest income in the Consolidated Statements of Income and recognized when earned. Loans held for sale are placed on nonaccrual in a manner consistent with loans held for investment. The Company recognizes a gain or loss on the sale of loans when the sales criteria for derecognition are met. See [Note 22. "Fair Value Accounting and Measurement"](#) for additional information on loans held for sale.

In addition, loans related to the branch divestitures in connection with our merger with Umpqua were reclassified as held for sale at December 31, 2022. These loans are carried at the lower of amortized cost or fair value.

Loans

Loans are generally carried at the unpaid principal balance, net of purchase premiums, purchase discounts and net deferred loan fees. Net deferred loan fees include nonrefundable loan origination fees less direct loan origination costs. Net deferred loan fees, purchase premiums and purchase discounts are amortized into interest income using either the interest method or straight-line method over the terms of the loans, adjusted for actual prepayments. The interest method is used for all loans except revolving loans, for which the straight-line method is used. Interest income is accrued as earned. Fees related to lending activities, other than the origination or purchase of loans, are recognized as noninterest income during the period the related services are performed.

Nonaccrual loans—Loans are placed on nonaccrual status when a loan becomes contractually past due 90 days with respect to interest or principal unless the loan is both well secured and in the process of collection, or if full collection of interest or principal becomes uncertain. When a loan is placed on nonaccrual status, any accrued and unpaid interest receivable is reversed and the amortization of net deferred loan fees, premiums and discounts ceases. The interest payments received on nonaccrual loans are generally accounted for on the cost-recovery method whereby the interest payment is applied to the principal balances. Loans may be returned to accrual status when improvements in credit quality eliminate the doubt as to the full collectability of both interest and principal and a period of sustained performance has occurred.

Restructured loans—A loan is classified as a TDR when a borrower is experiencing financial difficulties that lead to a restructuring of the loan, and the Company grants concessions to the borrower in the restructuring that it would not otherwise consider. These concessions may include interest rate reductions, principal forgiveness, extension of maturity date and other actions intended to minimize potential losses. Generally, a nonaccrual loan that is restructured remains on nonaccrual status for a period of six months to demonstrate that the borrower can meet the restructured terms. If the borrower's performance under the new terms is not reasonably assured, the loan remains classified as a nonaccrual loan.

Unfunded loan commitments—Unfunded commitments are generally related to providing credit facilities to clients of the Bank and are not actively traded financial instruments. These unfunded commitments are disclosed as financial instruments with off-balance sheet risk in [Note 19, “Commitments and Contingent Liabilities.”](#)

Allowance for Credit Losses

The allowance for credit losses under ASC 326 is an accounting estimate of expected losses over the contractual life of assets carried at amortized cost within the Company’s loan portfolio at the balance sheet date. Financial assets (or group of financial assets) measured at amortized cost must be presented at the net amount expected to be collected. The allowance for credit losses is a valuation account that is deducted from the amortized cost basis of the financial asset to present the net carrying value at the amount expected to be collected on the financial asset.

The quantitative allowance is calculated using a DCF approach with a probability of default methodology. The probability of default is an assumption derived from regression models which determines the relationship between historical defaults and certain economic variables. The Company determines a reasonable and supportable forecast and applies that forecast to the regression model to determine defaults over the forecast period. The Company leverages economic projections from an independent third-party provider on a quarterly basis that are vetted by the Company through quantifiable analysis and comparisons are evaluated by a committee before a final scenario is determined for the 18 month reasonable and supportable forecast period used by the Company. Following the forecast period, the economic variables used to calculate the probability of default reverts to its historical mean using a straight-line basis constructed on each macroeconomic factor’s absolute historical quarterly change at a constant rate. Other assumptions relevant to the discounted cash flow model to derive the quantitative allowance include the loss given default, which is the estimate of loss for a defaulted loan, and the discount rate applied to future cash flows. The DCF model calculates the net present value of each loan using both the contractual and expected cash flows, respectively.

In addition to the quantitative portion of the allowance for credit losses, the Company also considers the effects of the following qualitative factors in its calculation of expected losses in the loan portfolio:

- Economic and business conditions;
- Concentration of credit;
- Lending management and staff;
- Lending policies and procedures;
- Loss and recovery trends;
- Nature and volume of the portfolio;
- Trends in problem loans, loan delinquencies and nonaccrual loans;
- Quality of internal loan review; and
- Other external factors such as the effect of economic stimulus and loan modification programs.

The qualitative factor methodology is based on quantitative metrics, but also includes a high degree of subjectivity and changes in any of the metrics could have a significant impact on our calculation of the allowance.

Loans for which repayment is expected to be provided substantially through the operation or sale of collateral are considered collateral-dependent. The allowance for credit losses for collateral-dependent loans is measured on the basis of the fair value of the collateral when foreclosure is probable.

Unfunded Commitments and Letters of Credit—The estimate of expected credit losses under the CECL methodology is based on relevant information about past events, current conditions and reasonable and supportable forecasts that affect the collectability of the reported amounts. Expected credit losses are calculated based on the likelihood that funding will occur and an estimate of the amount that will be funded using recent utilization rates, current utilization and the Company’s quantitative ACL rate. The allowance for unfunded commitments is included in “Other liabilities” on the Consolidated Balance Sheets, with changes to the balance charged against noninterest expense.

Premises and Equipment

Land, buildings, leasehold improvements and equipment are stated at cost less accumulated depreciation and amortization. Gains or losses on dispositions are reflected in current operations. Expenditures for improvements and major renewals are capitalized, and ordinary maintenance, repairs and small purchases are charged to “Occupancy” expense in the Consolidated Statements of Income. Depreciation and amortization are computed based on the straight-line method over the estimated useful lives of the various classes of assets.

The ranges of useful lives for the principal classes of assets are as follows:

Buildings and building improvements	5 to 39 years
Leasehold improvements	Term of lease or useful life, whichever is shorter
Furniture, fixtures and equipment	3 to 7 years
Vehicles	5 years
Computer software	3 to 5 years

Software

Capitalized software is stated at cost, less accumulated amortization. Amortization is computed on a straight-line basis and charged to expense over the estimated useful life of the software, which is generally three years. Capitalized software is included in “Premises and equipment, net” in the Consolidated Balance Sheets.

Implementation costs incurred for software that is part of a hosting arrangement are capitalized in “Other assets” in the Consolidated Balance Sheets and amortized on a straight-line basis over the life of the contract.

Other Real Estate Owned

OREO is composed of real estate acquired by the Company through either foreclosure or deed in lieu of foreclosure in satisfaction of debt. At foreclosure, OREO is recorded at fair value less estimated costs to sell. Any fair value adjustments at foreclosure are charged to the allowance, or in the event of a write-up without previous losses charged to the allowance, a credit to earnings is recorded. The fair value of the OREO is based upon a current appraisal or a letter of intent to purchase. Losses that result from the ongoing periodic valuation of these properties are charged to the net cost of operation of OREO in the period in which they are identified. Improvements to OREO are capitalized and holding costs are charged to the net cost of operation of OREO as incurred.

Goodwill and Intangibles

Net assets of companies acquired in a business combination are recorded at fair value at the date of acquisition. Any excess of the purchase price over the fair value of net assets acquired, including identified intangible assets, is recognized as goodwill. Goodwill is reviewed for potential impairment annually, during the third quarter, or, more frequently, if events or circumstances indicate a potential impairment, at the reporting unit level. A reporting unit is an operating segment or one level below an operating segment for which discrete financial information is available and regularly reviewed by management. The Company consists of a single reporting unit. The test for impairment requires the Company to compare the fair value of the reporting unit to its carrying value. If the fair value of the reporting unit is less than its carrying value, the difference is the amount of impairment and goodwill is written down to the fair value of the reporting unit. Prior to completing the impairment test, however, the Company may assess qualitative factors to determine whether it is more likely than not that the fair value of the reporting unit is less than its carrying amount. If such an assessment indicates the fair value of the reporting unit is more likely than not greater than its carrying value, then the impairment test need not be completed.

Identified intangible assets are amortized on an accelerated basis over the period benefited. Intangible assets are also evaluated for impairment if events and circumstances indicate a possible impairment. Such evaluation is based on undiscounted cash flow projections. At December 31, 2022, intangible assets included in the Consolidated Balance Sheets principally consisted of CDI with an original estimated life of 10 years.

Leases

The Company determines if a lease is present at the inception of an agreement. Operating leases are capitalized at commencement and are discounted using the Company's FHLB borrowing rate for a similar term borrowing unless the lease defines a rate within the contract. Leases with original terms of less than 12 months are not capitalized. For operating leases existing prior to January 1, 2019, the rate for the remaining lease term as of January 1, 2019 was used. Right-of-use assets represent the Company's right to use an underlying asset for the lease term and lease liabilities represent the obligation to make lease payments arising from the lease. Operating lease right-of-use assets and operating lease liabilities are recognized on the lease commencement date based on the present value of lease payments over the lease term. The lease term includes options to extend or terminate the lease if the Company is reasonably certain that an option will be exercised. See [Note 10, "Leases"](#) for additional information on leases.

Income Taxes

The provision for income taxes includes current and deferred income tax expense on net income adjusted for temporary and permanent differences such as interest income from state and municipal securities and investments in affordable housing tax credits. Deferred tax assets and liabilities are recognized for the expected future tax consequences of existing temporary differences between the financial reporting and tax reporting basis of assets and liabilities using enacted tax laws and rates. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in income in the period that includes the enactment date. On a quarterly basis, management evaluates deferred tax assets to determine if these tax benefits are expected to be realized in future periods. This determination is based on facts and circumstances, including the Company's current and future tax outlook. To the extent a deferred tax asset is no longer considered "more likely than not" to be realized, a valuation allowance is established.

We recognize the tax benefit from uncertain tax positions only if it is more likely than not that the tax positions will be sustained on examination by the tax authorities, based on the technical merits of the position. The tax benefit is measured based on the largest benefit that has a greater than 50% likelihood of being realized upon ultimate settlement. We recognize interest and penalties related to unrecognized tax benefits in "Provision for income taxes" in the Consolidated Statements of Income.

Advertising

Advertising costs are generally expensed as incurred.

Earnings per Common Share

The Company's capital structure includes common shares, restricted common share awards and common share options. Restricted common share awards granted prior to the 2018 equity incentive plan participate in dividends declared on common shares at the same rate as common shares. These restricted common share awards are considered participating securities under the EPS topic of the FASB ASC.

The Company calculates EPS using the two-class method. The two-class method is an earnings allocation formula that treats a participating security as having rights to earnings that otherwise would have been available to common shareholders but does not require the presentation of basic and diluted EPS for securities other than common shares. Under the two-class method, basic EPS is computed by dividing earnings allocated to common shareholders by the weighted average number of common shares outstanding for the period. Earnings allocated to common shareholders represents net income reduced by earnings allocated to participating securities. Diluted EPS is computed in the same manner as basic EPS except that the denominator is increased to include the number of additional common shares that would have been outstanding if certain shares issuable upon exercise of common share options were included unless those additional shares would have been anti-dilutive. For the diluted EPS computation, the treasury stock method is applied and compared to the two-class method and whichever method results in a more dilutive impact is utilized to calculate diluted EPS.

Share-Based Payment

The Company accounts for stock options and stock awards in accordance with the Compensation—Stock Compensation topic of the FASB ASC. Authoritative guidance requires the Company to measure the cost of employee services received in exchange for an award of equity instruments, such as stock options or stock awards, based on the fair value of the award on the grant date. This cost must be recognized in the Consolidated Statements of Income over the vesting period of the award.

The Company issues RSAs and RSUs which generally vest over a three- or four-year period. RSA and RSU time-based awards vest ratably over their vesting period while RSA and RSU performance-based awards cliff vest. Recipients of RSAs have voting rights while recipients of RSUs do not. Pursuant to our equity incentive plan approved in 2018, the holder accrues dividends, which are paid out when the RSAs vest or when the RSUs vest and the common shares are issued. The fair value of time-based and performance-based awards are equal to the fair market value of the Company's common stock on the grant date. The fair value of market-based performance awards are estimated on the date of grant using the Monte Carlo simulation model.

Derivatives and Hedging Activities

In accordance with the Derivatives and Hedging topic of the FASB ASC, the Company recognizes derivatives as assets or liabilities on the Consolidated Balance Sheets at their fair value. The Company periodically enters into interest rate contracts with customers and offsetting contracts with third parties. As these interest rate contracts are not designated as hedges under the Derivatives and Hedging topic of the FASB ASC, the changes in fair value of these instruments are recognized immediately in earnings. The Company also enters into forward contracts to sell residential mortgage loans to broker/dealers at specific prices and dates in order to hedge the interest rate risk in its portfolio of mortgage loans held for sale and its residential loan commitments. The commitments to originate mortgage loans held for sale and the related forward delivery contracts are considered derivatives.

As part of the Company's overall interest rate risk management, the Company used an interest rate collar with a notional amount of \$500.0 million to mitigate interest rate risk. This collar was designated and qualified as a cash flow hedge. Gains and losses were recorded in accumulated other comprehensive income to the extent the hedge was effective. Gains and losses were reclassified from accumulated other comprehensive income to earnings in the period the hedged transaction affected earnings and was included in the same income statement line item that the hedged transaction was recorded. In October 2020, the interest rate collar was terminated. See [Note 17. "Derivatives and Balance Sheet Offsetting"](#) for additional information.

Revenue from Contracts with Customers

Revenue in the scope of Topic 606, *Revenue from Contracts with Customers* is measured based on the consideration specified in the contract with a customer and excludes amounts collected on behalf of third parties. The vast majority of the Company's revenue is specifically outside the scope of Topic 606. For in-scope revenue, the following is a description of principal activities, separated by the timing of revenue recognition from which the Company generates its revenue from contracts with customers.

- a. Revenue earned at a point in time - Examples of revenue earned at a point in time are ATM transaction fees, wire transfer fees, overdraft fees, interchange fees and foreign exchange transaction fees. Revenue is primarily based on the number and type of transactions and is generally derived from transactional information accumulated by our systems and is recognized immediately as the transactions occur or upon providing the service to complete the customer's transaction. The Company is the principal in each of these contracts, with the exception of interchange fees, in which case we are acting as the agent and record revenue net of expenses paid to the principal.
- b. Revenue earned over time - The Company earns revenue from contracts with customers in a variety of ways where the revenue is earned over a period of time - generally monthly. Examples of this type of revenue are deposit account maintenance fees, investment advisory fees, merchant revenue and safe deposit box fees. Revenue is generally derived from transactional information accumulated by our systems or those of third-parties and is recognized as the related transactions occur or services are rendered to the customer.

The Company recognizes revenue from contracts with customers when it satisfies its performance obligations. The Company's performance obligations are typically satisfied as services are rendered and our contracts generally do not include multiple performance obligations. As a result, there are no contract balances as payments and services are rendered simultaneously. Payment is generally collected at the time services are rendered, monthly or quarterly. Unsatisfied performance obligations at the report date are not material to our Consolidated Financial Statements.

In certain cases, other parties are involved with providing products and services to our customers. If the Company is principal in the transaction (providing goods or services itself), revenues are reported based on the gross consideration received from the customer and any related expenses are reported gross in noninterest expense. If the Company is an agent in the transaction (arranging for another party to provide goods or services), the Company reports its net fee or commission retained as revenue.

Rebates, waivers and reversals are recorded as a reduction of the transaction price either when the revenue is recognized by the Company or at the time the rebate, waiver or reversal is earned by the customer.

Practical expedients

The Company does not adjust the consideration from customers for the effects of a significant financing component if at contract inception the period between when the entity transfers the goods or services and when the customer pays for that good or service will be one year or less.

The Company pays sales commissions to its employees in accordance with certain incentive plans and in connection with obtaining certain contracts with customers. The Company expenses such sales commissions when incurred if the amortization period of the asset the Company otherwise would have recognized is one year or less. Sales commissions are included in compensation and employee benefits expense.

For the Company's contracts that have an original expected duration of one year or less, the Company has not disclosed the amount of the transaction price allocated to unsatisfied performance obligations as of the end of each reporting period or when the Company expects to recognize this revenue.

Accounting Pronouncements Recently Adopted or Issued

Accounting Standards Adopted in 2022

In December 2022, the FASB issued ASU 2022-06, *Reference Rate Reform (Topic 848) - Deferral of the Sunset Date of Topic 848*. The amendments in this ASU defer the sunset date included in ASU 2020-04 to provide temporary, optional expedients related to the accounting for contract modifications and hedging transactions as a result of the global markets' anticipated transition away from the use of LIBOR and other interbank offered rates to alternative reference rates. Preceding the issuance of ASU 2020-04, which established ASC 848, the United Kingdom's Financial Conduct Authority ("FCA") announced that it would no longer need to persuade or compel banks to submit to LIBOR after December 31, 2021. In response, the FASB established a December 31, 2022 expiration date of ASC 848. In March 2021, the FCA announced that the intended cessation date of LIBOR in the United States would be June 30, 2023. Accordingly, ASU 2022-06 defers the expiration date of ASC 848 to December 31, 2024. This ASU was effective immediately and did not have a material impact on the Company's Consolidated Financial Statements.

Recently Issued Accounting Standards, Not Yet Adopted

In June 2022, the FASB issued ASU 2022-03, *Fair Value Measurement (Topic 820) - Fair Value Measurement of Equity Securities Subject to Contractual Sale Restrictions*. The amendments in this ASU clarify 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 is not considered in measuring fair value. Further, an entity cannot, as a separate unit of account, recognize and measure a contractual sale restriction. Additionally, the amendments require the disclosures for equity securities subject to contractual sale restrictions to include the fair value of equity securities subject to contractual sale restrictions reflected on the balance sheet, the nature and remaining duration of the restrictions and the circumstances that could cause a lapse in the restrictions. The ASU is effective for interim and annual reporting periods beginning after December 15, 2023; early adoption is permitted. The adoption of this ASU is not expected to have a material impact on the Company's Consolidated Financial Statements.

In March 2022, the FASB issued ASU 2022-02, *Financial Instruments - Credit Losses (Topic 326) - Troubled Debt Restructurings and Vintage Disclosures*. The amendments in this ASU enhance disclosure requirements for certain loan refinancings and restructurings by creditors when a borrower is experiencing financial difficulty. Additionally, the amendments require the disclosure of current-period gross charge-offs by year of origination for financing receivables and net investments in leases within scope. The ASU is effective for interim and annual reporting periods beginning after December 15, 2022; early adoption is permitted. The adoption of this ASU is not expected to have a material impact on the Company's Consolidated Financial Statements.

2. Business Combinations

Bank of Commerce

On October 1, 2021, the Company completed its acquisition of Bank of Commerce and its wholly-owned banking subsidiary Merchants Bank of Commerce. The Company acquired 100% of the equity interests of Bank of Commerce.

The assets acquired and liabilities assumed have been accounted for under the acquisition method of accounting. The assets and liabilities, both tangible and intangible, were recorded at their fair values as of the October 1, 2021 acquisition date. The application of the acquisition method of accounting resulted in the recognition of goodwill of \$57.3 million and a CDI of \$15.9 million. The goodwill represents the excess of the purchase price over the fair value of the net assets acquired. The Company paid this premium for a number of reasons, including to expand the Company’s current footprint, enter the California market and the synergies and economies of scale expected from the acquisition. The goodwill is not deductible for income tax purposes.

The table below summarizes the amounts recognized as of the acquisition date for each major class of assets acquired and liabilities assumed:

	<u>October 1, 2021</u>
	<i>(in thousands)</i>
Merger consideration	\$ 256,257
Identifiable net assets acquired, at fair value	
Assets acquired	
Cash and cash equivalents	\$ 155,180
Investment securities	654,480
FHLB stock	7,463
Loans, net allowance for credit loss	1,084,984
Interest receivable	5,237
Premises and equipment	17,658
Core deposit intangible	15,932
Other assets	41,963
Total assets acquired	<u>1,982,897</u>
Liabilities assumed	
Deposits	(1,737,584)
Subordinated debentures	(10,000)
Junior subordinated debentures	(10,310)
Other liabilities	(26,076)
Total liabilities assumed	<u>(1,783,970)</u>
Total fair value of identifiable net assets	<u>198,927</u>
Goodwill	<u>\$ 57,330</u>

See [Note 9, “Goodwill and Other Intangible Assets,”](#) for further discussion of the accounting for goodwill and other intangible assets.

Of the \$1.08 billion net loans acquired, \$40.3 million exhibited credit deterioration on the date of purchase. The following table provides a summary of these PCD loans at acquisition:

	<u>October 1, 2021</u>
	<i>(in thousands)</i>
Par value of PCD loans acquired	\$ 43,419
PCD ACL at acquisition	(2,616)
Non-credit discount on PCD loans	(525)
Purchase price of PCD loans	<u>\$ 40,278</u>

The operating results of the Company reported herein include the operating results produced by the acquired assets and assumed liabilities for the period of October 1, 2021 to December 31, 2022. Disclosure of the amount of Bank of Commerce’s revenue and net income (excluding integration costs) included in Columbia’s Consolidated Statements of Income is impracticable due to the integration of the operations and accounting for this acquisition.

For illustrative purposes only, the following table presents certain unaudited pro forma information for the year ended December 31, 2021 and 2020. This unaudited, estimated pro forma financial information was calculated as if Bank of Commerce had been acquired as of the beginning of the year prior to the date of acquisition. This unaudited pro forma information combines the historical results of Bank of Commerce with the Company's consolidated historical results and includes certain adjustments reflecting the estimated impact of certain fair value adjustments for the respective periods. The pro forma information is not indicative of what would have occurred had the acquisition occurred as of the beginning of the year prior to the acquisition. The unaudited pro forma information does not consider any changes to the provision for credit losses resulting from recording loan assets at fair value. Additionally, the pro forma amounts below do not reflect Columbia's expectations as of the date of the pro forma information of further operating cost savings and other business synergies expected to be achieved, including revenue growth as a result of the acquisition. As a result, actual amounts would have differed from the unaudited pro forma information presented.

	Unaudited Pro Forma for the Years Ended December 31,	
	2021	2020
	<i>(in thousands, except per share amounts)</i>	
Total revenues (net interest income plus noninterest income)	\$ 664,875	\$ 660,857
Net income	\$ 221,637	\$ 164,087
EPS - basic	\$ 2.85	\$ 2.11
EPS - diluted	\$ 2.84	\$ 2.10

The following table shows the impact of the merger-related expenses related to the acquisition of Bank of Commerce for the periods indicated to the various components of noninterest expense:

	Years ended December 31,		
	2022	2021	2020
	<i>(in thousands)</i>		
Noninterest Expense			
Compensation and employee benefits	\$ 1,753	\$ 4,875	\$ —
Occupancy	928	271	—
Data processing	1,584	287	—
Legal and professional fees	414	4,429	—
Advertising and promotion	18	9	—
Other	896	499	—
Total impact of merger-related costs to noninterest expense	\$ 5,593	\$ 10,370	\$ —

In addition, related to the pending transaction with Umpqua, the Company recognized \$13.5 million of merger-related expenses for the year ended December 31, 2022. The Company expects to close this transaction after close of business on February 28, 2023. See [Note 29, "Subsequent Events,"](#) for additional information.

3. Cash and Cash Equivalents

Generally, the Company is required to maintain an average reserve balance with the FRB, which is based on a percentage of deposits, or maintain such reserve balance in the form of cash. However, the Federal Reserve reduced the required percentage to zero effective March 26, 2020; therefore, the Company did not have an average required reserve balance for the years ended December 31, 2022 or 2021.

4. Securities

At December 31, 2022, the Company's securities portfolio primarily consisted of securities issued by the U.S. government, U.S. government agencies, U.S. government-sponsored enterprises and states and municipalities. Nearly all of the Company's mortgage-backed securities and collateralized mortgage obligations are issued by U.S. government agencies and U.S. government-sponsored enterprises and are implicitly guaranteed by the U.S. government. The remainder of the Company's available for sale mortgage-backed securities are non-agency collateralized mortgage obligations which currently carry ratings no lower than A. The Company had no other issuances in its portfolio which exceeded ten percent of shareholders' equity.

The following table summarizes the amortized cost, gross unrealized gains and losses and the resulting fair value of debt securities:

	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
December 31, 2022				
<i>(in thousands)</i>				
Available for sale				
U.S. government agency and government-sponsored enterprise mortgage-backed securities and collateralized mortgage obligations	\$ 3,188,381	\$ 382	\$ (429,053)	\$ 2,759,710
Other asset-backed securities	376,336	—	(48,983)	327,353
State and municipal securities	959,469	199	(125,595)	834,073
U.S. government agency and government-sponsored enterprise securities	222,829	2	(14,062)	208,769
U.S. government securities	183,049	—	(15,153)	167,896
Non-agency collateralized mortgage obligations	352,782	—	(61,484)	291,298
Total available for sale	<u>\$ 5,282,846</u>	<u>\$ 583</u>	<u>\$ (694,330)</u>	<u>\$ 4,589,099</u>
Held to maturity				
U.S. government agency and government-sponsored enterprise mortgage-backed securities and collateralized mortgage obligations	\$ 2,034,792	\$ —	\$ (312,014)	\$ 1,722,778
Total held to maturity	<u>\$ 2,034,792</u>	<u>\$ —</u>	<u>\$ (312,014)</u>	<u>\$ 1,722,778</u>
December 31, 2021				
Available for sale				
U.S. government agency and government-sponsored enterprise mortgage-backed securities and collateralized mortgage obligations	\$ 3,738,616	\$ 45,077	\$ (38,092)	\$ 3,745,601
Other asset-backed securities	469,052	3,802	(9,791)	463,063
State and municipal securities	983,704	18,525	(4,938)	997,291
U.S. government agency and government-sponsored enterprise securities	252,755	3,095	(3,274)	252,576
U.S. government securities	158,367	—	(831)	157,536
Non-agency collateralized mortgage obligations	295,547	340	(955)	294,932
Total available for sale	<u>\$ 5,898,041</u>	<u>\$ 70,839</u>	<u>\$ (57,881)</u>	<u>\$ 5,910,999</u>
Held to maturity				
U.S. government agency and government-sponsored enterprise mortgage-backed securities and collateralized mortgage obligations	\$ 2,148,327	\$ 50	\$ (25,771)	\$ 2,122,606
Total held to maturity	<u>\$ 2,148,327</u>	<u>\$ 50</u>	<u>\$ (25,771)</u>	<u>\$ 2,122,606</u>

There was no allowance for credit losses on both available for sale securities and held to maturity securities as of December 31, 2022 and December 31, 2021. All of the Company's debt securities held to maturity were issued by U.S. government agencies or U.S. government-sponsored enterprises. These securities carry the explicit or implicit guarantee of the U.S. government, are widely recognized as "risk free," and have a long history of zero credit loss.

A debt security is placed on nonaccrual status at the time any principal or interest payments become 90 days delinquent. Interest accrued but not received for a security placed on nonaccrual is reversed against interest income. There were no amounts of accrued interest reversed against interest income for the twelve months ended December 31, 2022 and 2021.

Accrued interest receivable for debt securities is included in “Interest receivable” on the Company’s Consolidated Balance Sheet and is not reflected in the balances in the table above. At December 31, 2022 and 2021, accrued interest receivable for securities available for sale was \$17.3 million and \$19.2 million, respectively. Accrued interest for securities held to maturity was \$4.2 million at December 31, 2022 and \$4.4 million at December 31, 2021. The Company does not measure an allowance for credit losses for accrued interest receivable.

The following table provides the proceeds and both gross realized gains and losses on the sales and calls of debt securities available for sale as well as other securities gains and losses for the periods indicated:

	Years Ended December 31,		
	2022	2021	2020
	<i>(in thousands)</i>		
Proceeds from sales and calls of debt securities available for sale	\$ 741	\$ 89,219	\$ 194,697
Gross realized gains from sales of debt securities available for sale	\$ —	\$ 751	\$ 471
Gross realized losses from sales of debt securities available for sale	(9)	(437)	(186)
Other securities gains, net (1)	—	—	16,425
Investment securities gains (losses), net	\$ (9)	\$ 314	\$ 16,710

(1) Other securities gains includes gain from sale of Visa Class B restricted stock and subsequent write up to fair value of remaining Visa Class B shares.

The following table provides the unrealized gains and losses on equity securities at the reporting date:

	Years Ended December 31,		
	2022	2021	2020
	<i>(in thousands)</i>		
Gains recognized during the period on equity securities	\$ —	\$ —	\$ 16,425
Less: Losses recognized during the period on equity securities sold during the period.	—	—	(3,000)
Unrealized gains recognized during the reporting period on equity securities still held at the reporting date (1).	\$ —	\$ —	\$ 13,425

(1) Visa Class B restricted stock owned by the Company was previously carried at a zero-cost basis due to existing transfer restrictions and uncertainty of covered litigation. The sale of shares by the Company of Visa Class B restricted shares during the year ended December 31, 2020 resulted in an observable market price. As a result, the Company adjusted the carrying value of its remaining shares of Visa Class B restricted shares upward to this observable market price.

The scheduled contractual maturities of debt securities at December 31, 2022 are presented as follows:

	December 31, 2022			
	Available for sale		Held to maturity	
	Amortized Cost	Fair Value	Amortized Cost	Fair Value
	<i>(in thousands)</i>			
Due within one year	\$ 85,094	\$ 84,216	\$ —	\$ —
Due after one year through five years	1,132,895	1,055,150	301,515	265,831
Due after five years through ten years	1,106,689	973,108	916,571	775,931
Due after ten years	2,958,168	2,476,625	816,706	681,016
Total debt securities	\$ 5,282,846	\$ 4,589,099	\$ 2,034,792	\$ 1,722,778

The following table summarizes the carrying value of securities pledged as collateral to secure public deposits, borrowings and other purposes as permitted or required by law:

	December 31,	
	2022	2021
	<i>(in thousands)</i>	
To secure public funds	\$ 564,150	\$ 596,779
To secure borrowings	—	98,796
Other securities pledged	266,752	267,213
Total securities pledged as collateral	<u>\$ 830,902</u>	<u>\$ 962,788</u>

The following tables show the gross unrealized losses and fair value of the Company's debt securities available for sale for which an allowance for credit losses has not been recorded, aggregated by investment category and length of time that individual securities have been in a continuous unrealized loss position at December 31, 2022 and 2021:

	Less than 12 Months		12 Months or More		Total	
	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses
	<i>(in thousands)</i>					
December 31, 2022						
U.S. government agency and government-sponsored enterprise mortgage-backed securities and collateralized mortgage obligations	\$ 735,898	\$ (50,201)	\$ 2,005,957	\$ (378,852)	\$ 2,741,855	\$ (429,053)
Other asset-backed securities	76,877	(7,579)	250,475	(41,404)	327,352	(48,983)
State and municipal securities	309,675	(23,690)	485,620	(101,905)	795,295	(125,595)
U.S. government agency and government-sponsored enterprise securities	68,656	(1,375)	139,364	(12,687)	208,020	(14,062)
U.S. government securities	—	—	167,896	(15,153)	167,896	(15,153)
Non-agency collateralized mortgage obligations	11,669	(2,736)	279,629	(58,748)	291,298	(61,484)
Total	<u>\$ 1,202,775</u>	<u>\$ (85,581)</u>	<u>\$ 3,328,941</u>	<u>\$ (608,749)</u>	<u>\$ 4,531,716</u>	<u>\$ (694,330)</u>
December 31, 2021						
U.S. government agency and government-sponsored enterprise mortgage-backed securities and collateralized mortgage obligations	\$ 2,292,062	\$ (30,777)	\$ 176,946	\$ (7,315)	\$ 2,469,008	\$ (38,092)
Other asset-backed securities	195,708	(4,823)	117,751	(4,968)	313,459	(9,791)
State and municipal securities	237,354	(3,862)	40,343	(1,076)	277,697	(4,938)
U.S. government agency and government-sponsored enterprise securities	100,813	(1,988)	48,714	(1,286)	149,527	(3,274)
U.S. government securities	157,536	(831)	—	—	157,536	(831)
Non-agency collateralized mortgage obligations	212,259	(955)	—	—	212,259	(955)
Total	<u>\$ 3,195,732</u>	<u>\$ (43,236)</u>	<u>\$ 383,754</u>	<u>\$ (14,645)</u>	<u>\$ 3,579,486</u>	<u>\$ (57,881)</u>

Debt securities available for sale

At December 31, 2022, there were 645 U.S. government agency and government-sponsored enterprise mortgage-backed securities and collateralized mortgage obligation securities in an unrealized loss position. The decline in fair value is attributable to changes in interest rates relative to where these investments fall within the yield curve and their individual characteristics. Because the Company does not currently intend to sell these securities nor does the Company consider it more likely than not that it will be required to sell these securities before the recovery of amortized cost basis, which may be upon maturity, the Company concluded an allowance for credit losses is unnecessary at December 31, 2022.

At December 31, 2022, there were 83 other asset-backed securities in an unrealized loss position. The decline in fair value is attributable to changes in interest rates relative to where these investments fall within the yield curve and their individual characteristics. Because the Company does not currently intend to sell these securities nor does the Company consider it more likely than not that it will be required to sell these securities before the recovery of amortized cost basis, which may be upon maturity, the Company concluded an allowance for credit losses is unnecessary at December 31, 2022.

At December 31, 2022, there were 563 state and municipal government securities in an unrealized loss position. The unrealized losses on state and municipal securities were caused by interest rate changes or widening of market spreads subsequent to the purchase of the individual securities. Management monitors published credit ratings of these securities for adverse changes. As of December 31, 2022, none of the rated obligations of state and local government entities held by the Company had a below investment grade credit rating. Because the credit quality of these securities is investment grade and the Company does not currently intend to sell these securities nor does the Company consider it more likely than not that it will be required to sell these securities before the recovery of amortized cost basis, which may be upon maturity, the Company concluded an allowance for credit losses is unnecessary at December 31, 2022.

At December 31, 2022, there were 21 U.S. government agency and government-sponsored enterprise securities in an unrealized loss position. The decline in fair value is attributable to changes in interest rates relative to where these investments fall within the yield curve and their individual characteristics. Because the Company does not intend to sell these securities nor does the Company consider it more likely than not that it will be required to sell these securities before the recovery of amortized cost basis, which may be upon maturity, the Company concluded an allowance for credit losses is unnecessary at December 31, 2022.

At December 31, 2022, there were 10 U.S. government securities in an unrealized loss position. The decline in fair value is attributable to changes in interest rates relative to where these investments fall within the yield curve and their individual characteristics. Because the Company does not intend to sell these securities nor does the Company consider it more likely than not that it will be required to sell these securities before the recovery of amortized cost basis, which may be upon maturity, the Company concluded an allowance for credit losses is unnecessary at December 31, 2022.

At December 31, 2022, there were 56 non-agency collateralized mortgage obligations in an unrealized loss position. The decline in fair value is attributable to changes in interest rates relative to where these investments fall within the yield curve and their individual characteristics. Because the Company does not intend to sell these securities nor does the Company consider it more likely than not that it will be required to sell these securities before the recovery of amortized cost basis, which may be upon maturity, the Company concluded an allowance for credit losses is unnecessary at December 31, 2022.

Equity Securities without Readily Determinable Fair Values

In 2008, the Company received Visa Class B restricted shares as part of Visa's initial public offering. These shares are transferable only under limited circumstances until they can be converted into publicly traded Visa Class A common shares. This conversion will not occur until the settlement of certain litigation which is indemnified by Visa members, including the Company. Visa funded an escrow account from its initial public offering to settle these litigation claims. Should this escrow account not be sufficient to cover these litigation claims, Visa is entitled to fund additional amounts to the escrow account by reducing each member banks' Visa Class B conversion ratio to unrestricted Visa Class A shares.

During the year ended December 31, 2020, the Company sold 17,360 shares of Visa Class B restricted stock, which resulted in an observable market price. As a result, the Company adjusted the carrying value of its remaining Visa Class B restricted shares upward to this observable market price. At December 31, 2022, the Company owned 77,683 Visa Class B shares, which had a carrying value of \$13.4 million.

5. Loans

The Company’s loan portfolio includes originated and purchased loans. The following is an analysis of the loan portfolio by segment (net of unearned income):

	December 31,	
	2022	2021
<i>(in thousands)</i>		
Commercial loans:		
Commercial real estate	\$ 5,352,785	\$ 4,981,263
Commercial business	3,750,564	3,423,268
Agriculture	848,903	795,715
Construction	540,861	384,755
Consumer loans:		
One-to-four family residential real estate	1,077,494	1,013,908
Other consumer	40,366	43,028
Total loans	11,610,973	10,641,937
Less: Allowance for credit losses	(158,438)	(155,578)
Total loans, net	\$ 11,452,535	\$ 10,486,359

At December 31, 2022 and 2021, the Company had no material foreign activities. Substantially all of the Company’s loans and unfunded commitments are geographically concentrated in its service areas within the states of Washington, Oregon Idaho and California.

At December 31, 2022 and 2021, \$4.36 billion and \$3.49 billion, respectively, of commercial and residential real estate loans were pledged as collateral on FHLB advances. The Company has also pledged \$301.4 million and \$200.5 million of commercial loans to the FRB for additional borrowing capacity at December 31, 2022 and 2021, respectively.

Accrued interest receivable for loans is included in “Interest receivable” on the Company’s Consolidated Balance Sheet and is not reflected in the balances in the table above. At December 31, 2022 and 2021, accrued interest receivable for loans was \$43.4 million and \$32.4 million, respectively. The Company does not measure an allowance for credit losses for accrued interest receivable.

The following is an aging of the amortized cost of the loan portfolio as of December 31, 2022 and 2021:

	Current Loans	30 - 59 Days Past Due	60 - 89 Days Past Due	Greater than 90 Days Past Due	Total Past Due	Nonaccrual Loans	Total Loans
December 31, 2022							
<i>(in thousands)</i>							
Commercial loans:							
Commercial real estate	\$ 5,338,999	\$ 6,756	\$ 3,786	\$ —	\$ 10,542	\$ 3,244	\$ 5,352,785
Commercial business	3,739,731	4,336	1,364	—	5,700	5,133	3,750,564
Agriculture	842,506	493	1,537	—	2,030	4,367	848,903
Construction	540,861	—	—	—	—	—	540,861
Consumer loans:							
One-to-four family residential real estate	1,072,211	4,315	283	—	4,598	685	1,077,494
Other consumer	40,172	160	22	—	182	12	40,366
Total	\$ 11,574,480	\$ 16,060	\$ 6,992	\$ —	\$ 23,052	\$ 13,441	\$ 11,610,973
December 31, 2021							
<i>(in thousands)</i>							
Commercial loans:							
Commercial real estate	\$ 4,977,781	\$ —	\$ 1,610	\$ —	\$ 1,610	\$ 1,872	\$ 4,981,263
Commercial business	3,406,539	2,721	687	—	3,408	13,321	3,423,268
Agriculture	789,112	1,207	—	—	1,207	5,396	795,715
Construction	384,755	—	—	—	—	—	384,755
Consumer loans:							
One-to-four family residential real estate	1,010,343	921	211	—	1,132	2,433	1,013,908
Other consumer	42,998	11	—	—	11	19	43,028
Total	\$ 10,611,528	\$ 4,860	\$ 2,508	\$ —	\$ 7,368	\$ 23,041	\$ 10,641,937

Loan payments are considered timely when the contractual principal or interest due in accordance with the terms of the loan agreement or any portion thereof is received on the due date of the scheduled payment.

Nonaccrual loans are generally loans placed on a nonaccrual basis when they become 90 days past due or when there are otherwise serious doubts about the collectability of principal or interest within the existing terms of the loan. The Company's policy is to write-off all accrued interest on loans when they are placed on nonaccrual status.

The following table summarizes written-off interest on nonaccrual loans for the years ended December 31, 2022, 2021 and 2020:

	Years Ended December 31,		
	2022	2021	2020
	<i>(in thousands)</i>		
Commercial loans	\$ 604	\$ 628	\$ 1,972
Consumer loans	25	45	28
Total	\$ 629	\$ 673	\$ 2,000

The following summarizes the amortized cost of nonaccrual loans for which there was no related ACL as of December 31, 2022 and 2021:

	December 31, 2022	December 31, 2021
		<i>(in thousands)</i>
Commercial loans:		
Commercial real estate	\$ 2,281	\$ 932
Commercial business	815	5,131
Agriculture	2,111	3,756
Total	\$ 5,207	\$ 9,819

The following is an analysis of loans classified as TDR for the years ended December 31, 2022, 2021 and 2020:

	Years Ended December 31,								
	2022			2021			2020		
Number of TDR Modifications	Pre-Modification Outstanding Recorded Investment	Post-Modification Outstanding Recorded Investment	Number of TDR Modifications	Pre-Modification Outstanding Recorded Investment	Post-Modification Outstanding Recorded Investment	Number of TDR Modifications	Pre-Modification Outstanding Recorded Investment	Post-Modification Outstanding Recorded Investment	
	<i>(dollars in thousands)</i>								
Commercial loans:									
Commercial real estate	—	\$ —	\$ —	1	\$ 628	\$ 628	—	\$ —	\$ —
Commercial business	2	637	637	11	2,600	2,600	11	3,257	3,257
Agriculture	1	633	633	1	583	583	2	3,495	3,495
Consumer loans:									
One-to-four family residential real estate	1	50	50	3	155	155	6	814	814
Other consumer	—	—	—	—	—	—	—	—	—
Total	4	\$ 1,320	\$ 1,320	16	\$ 3,966	\$ 3,966	19	\$ 7,566	\$ 7,566

The Company's loans classified as TDR are loans that have been modified or the borrower has been granted special concessions due to financial difficulties, that if not for the challenges of the borrower, the Company would not otherwise consider. The Company had \$123 thousand of commitments to lend additional funds on loans classified as TDR as of December 31, 2022 as compared to \$1.5 million of similar commitments at December 31, 2021. The TDR modifications or concessions are made to increase the likelihood that these borrowers with financial difficulties will be able to satisfy their debt obligations as amended. The concessions granted in the restructurings, summarized in the table above, largely consisted of maturity extensions, interest rate modifications or a combination of both. In limited circumstances, a reduction in the principal balance of the loan could also be made as a concession. The Company had no loans classified as TDR that defaulted within 12 months of being classified as TDR during the years ended December 31, 2022, 2021 and 2020.

6. Allowance for Credit Losses and Allowance for Unfunded Commitments and Letters of Credit

The ACL is determined through quarterly assessments of the present value of expected future cash flows within the loan portfolio, which are deducted from the loan's amortized cost basis to determine the expected credit losses of the loan portfolio. We estimate the ACL using relevant and reliable available information, which is derived from both internal and external sources, relating to past events, current conditions, and reasonable and supportable forecasts. Additions to and recaptures from the ACL are charged to current period earnings through the provision for credit losses. Loan amounts that are determined to be uncollectible are charged directly against the ACL and netted against amounts recovered on previously charged-off loans.

For the purpose of calculating portfolio level reserves, we have segmented our loan portfolio into two portfolio segments (Commercial and Consumer). The Commercial and Consumer portfolio segments are then further broken down into loan classes by risk characteristics. The risk characteristics include regulatory call codes, type of industry, risk ratings and collateral type.

The ACL is comprised of reserves measured on a collective (pool) basis using a quantitative DCF model for all loan classes with similar risk characteristics and then qualitatively adjusted for large loan concentrations, policy exceptions granted and other factors. The quantitative DCF model utilizes anticipated period cash flows determined on a loan-level basis. The anticipated cash flows take into account contractual principal and interest payments, anticipated segment level prepayments, probability of defaults and historical loss given defaults. The majority of our loan classes utilize regression models to calculate probability of defaults, in which macroeconomic factors are correlated to historical quarterly defaults. The Commercial segment multi-factor models utilize a mix of 15 macroeconomic factors, including the most commonly used factors: Real GDP, National Unemployment Rate, Disposable Personal Income, Home Price Index and Private Inventories. The Consumer segment multi-factor models utilize a mix of three macroeconomic factors: National Unemployment Rate, Home Price Index and Disposable Income. The Company utilizes an 18 month reasonable and supportable forecast for the macroeconomic factors, after which the probability of default reverts to its historical mean using a straight-line basis constructed on each macroeconomic factor's absolute historical quarterly change.

Loans are individually measured for credit losses if they do not share similar risk characteristics of other loans within their respective pools. Individually measured loans are primarily nonaccrual and collateral dependent with balances equal to or greater than \$500,000 and for which the borrower is experiencing financial difficulty such that full satisfaction of the contractual terms of the loan are in question. Commercial real estate loans are secured by commercial real estate, including owner occupied and non-owner occupied commercial real estate, as well as multifamily residential real estate. Commercial business loans are primarily secured by non-real estate collateral, including equipment and other non-real estate fixed assets, inventory, receivables and cash. Agricultural loans are secured by farmland and other agricultural real estate, as well as equipment, inventory, such as crops and livestock, non-real estate fixed assets and cash. Construction loans are secured by one-to-four family residential real estate and commercial real estate in varying stages of development. One-to-four family residential real estate loans are secured by one-to-four family residential properties. Other consumer loans are secured by personal property. For collateral dependent loans, the Company calculates the allowance as the difference between the amortized cost of the loan and the fair market value of the collateral. The fair market value of the collateral is determined by either the discounted expected future cash flows from the operation of the collateral or the appraised value of the collateral, less costs to sell. If the fair value of the collateral is greater than the amortized cost of the loan, no reserve is recorded.

The Company also records an allowance for credit losses on unfunded loan commitments and letters of credit. We estimate expected credit losses on unfunded commitments in which we are exposed to credit risk, unless we have the option to unconditionally cancel the obligation. Expected credit losses are calculated based on the likelihood that funding will occur and an estimate of what will be funded by analyzing the most recent four-quarter utilization rates, current utilization and our quantitative ACL rate. The allowance for unfunded commitments and letters of credit is included in "Other Liabilities" on the Consolidated Balance Sheets, with changes to the balance being charged to noninterest expense.

We do not measure an allowance for credit losses on accrued interest receivable balances because these balances are written-off in a timely manner as a reduction to interest income when loans are placed on nonaccrual status.

The following tables show a detailed analysis of the ACL for the years ended December 31, 2022, 2021 and 2020:

	<u>Beginning Balance</u>	<u>Charge-offs</u>	<u>Recoveries</u>	<u>Provision (Recapture)</u>	<u>Ending Balance</u>
Year Ended December 31, 2022					
<i>(in thousands)</i>					
Commercial loans:					
Commercial real estate	\$ 61,254	\$ (299)	\$ 207	\$ (6,306)	\$ 54,856
Commercial business	54,712	(2,108)	2,183	3,049	57,836
Agriculture	8,148	(799)	869	853	9,071
Construction	5,397	—	387	7,358	13,142
Consumer loans:					
One-to-four family residential real estate	24,123	(3)	943	(2,708)	22,355
Other consumer	1,944	(1,240)	770	(296)	1,178
Total	\$ 155,578	\$ (4,449)	\$ 5,359	\$ 1,950	\$ 158,438

	<u>Beginning Balance</u>	<u>Initial ACL recorded for PCD loans acquired during the period</u>	<u>Charge-offs</u>	<u>Recoveries</u>	<u>Provision (Recapture)</u>	<u>Ending Balance</u>
Year Ended December 31, 2021						
<i>(in thousands)</i>						
Commercial loans:						
Commercial real estate	\$ 68,934	\$ 2,225	\$ (1,044)	\$ 633	\$ (9,494)	\$ 61,254
Commercial business	45,250	30	(6,364)	4,862	10,934	54,712
Agriculture	9,052	38	(322)	355	(975)	8,148
Construction	7,636	35	—	593	(2,867)	5,397
Consumer loans:						
One-to-four family residential real estate	16,875	286	(170)	907	6,225	24,123
Other consumer	1,393	2	(1,163)	735	977	1,944
Unallocated	—	—	—	—	—	—
Total	\$ 149,140	\$ 2,616	\$ (9,063)	\$ 8,085	\$ 4,800	\$ 155,578

	<u>Beginning Balance</u>	<u>Impact of Adopting ASC 326</u>	<u>Charge-offs</u>	<u>Recoveries</u>	<u>Provision (Recapture)</u>	<u>Ending Balance</u>
Year Ended December 31, 2020						
<i>(in thousands)</i>						
Commercial loans:						
Commercial real estate	\$ 20,340	\$ 7,533	\$ (1,419)	\$ 131	\$ 42,349	\$ 68,934
Commercial business	30,292	762	(12,396)	3,438	23,154	45,250
Agriculture	15,835	(9,325)	(6,427)	172	8,797	9,052
Construction	8,571	(1,750)	—	709	106	7,636
Consumer loans:						
One-to-four family residential real estate	7,435	4,237	(84)	2,083	3,204	16,875
Other consumer	883	778	(766)	399	99	1,393
Unallocated	612	(603)	—	—	(9)	—
Total	\$ 83,968	\$ 1,632	\$ (21,092)	\$ 6,932	\$ 77,700	\$ 149,140

The \$2.9 million increase in the ACL at December 31, 2022 compared to the ACL at December 31, 2021 was primarily due to the increase in the size of the loan portfolio. This was partially offset by significant improvement in the portfolio composition with declining special mention and substandard loans as a percentage of the portfolio, lower anticipated losses given default and the reductions of pandemic-related model inputs. The ACL does not include a reserve for the PPP loans as these loans are fully guaranteed by the SBA.

Changes in the allowance for unfunded commitments and letters of credit, a component of “Other liabilities” in the Consolidated Balance Sheets, are summarized as follows:

	Years Ended December 31,		
	2022	2021	2020
	<i>(in thousands)</i>		
Beginning balance	\$ 8,500	\$ 8,300	\$ 3,430
Impact of Adopting ASC 326	—	—	1,570
Net changes in the allowance for unfunded commitments and letters of credit	(500)	200	3,300
Ending balance	<u>\$ 8,000</u>	<u>\$ 8,500</u>	<u>\$ 8,300</u>

Credit Quality Indicators

The extension of credit in the form of loans or other credit products to consumer and commercial clients is one of our principal business activities. Our policies and applicable laws and regulations require risk analysis as well as ongoing portfolio and credit management. We manage our credit risk through lending limit constraints, credit review, approval policies and extensive, ongoing internal monitoring. We also manage credit risk through diversification of the loan portfolio by type of loan, type of industry and type of borrower and by limiting the aggregation of debt to a single borrower.

We evaluate the credit quality of our loan portfolio using regulatory risk ratings, which are based on relevant information about the borrower’s financial condition, including current financial condition, historical payment experience, credit documentation and current economic trends. Risk ratings are reviewed and updated whenever appropriate, with more periodic reviews as the risk and dollar value of the loss on the loan increases. All loans risk rated special mention or worse with amortized costs exceeding \$250,000 are reviewed at least quarterly with more frequent review for specific loans.

Pass rated loans are generally considered to have sufficient sources of repayment in order to repay the loan in full in accordance with all terms and conditions. Special Mention rated loans have potential weaknesses that, if left uncorrected, may result in deterioration of the repayment prospects for the asset or in the Company’s credit position at some future date. Loans with a risk rating of Substandard or worse are reviewed to assess the ability of our borrowers to service all interest and principal obligations and, as a result, the risk rating or accrual status may be adjusted accordingly. Loans risk rated as Substandard reflect loans where a loss is possible if loan weaknesses are not corrected. Doubtful rated loans have a high probability of loss; however, the amount of loss has not yet been determined. Loss rated loans are considered uncollectible and when identified, are charged-off.

The following is an analysis of the credit quality of our loan portfolio as of December 31, 2022 and 2021:

	Term Loans Amortized Cost Basis by Origination Year						Revolving Loans Amortized Cost Basis	Revolving Loans Converted to Term Loans Amortized Cost Basis	Total (1)	
	2022	2021	2020	2019	2018	Prior				
December 31, 2022	<i>(in thousands)</i>									
Commercial loans:										
Commercial real estate										
Pass	\$ 1,182,136	\$ 1,009,480	\$ 636,056	\$ 588,494	\$ 394,552	\$ 1,295,185	\$ 75,487	\$ 12,551	\$ 5,193,941	
Special mention	1,698	—	1,357	15,199	1,513	13,590	—	—	33,357	
Substandard	318	7,460	20,317	30,422	2,904	60,343	3,723	—	125,487	
Total commercial real estate	\$ 1,184,152	\$ 1,016,940	\$ 657,730	\$ 634,115	\$ 398,969	\$ 1,369,118	\$ 79,210	\$ 12,551	\$ 5,352,785	
Commercial business										
Pass	\$ 521,615	\$ 658,452	\$ 337,927	\$ 208,199	\$ 159,105	\$ 247,086	\$ 1,456,332	\$ 9,736	\$ 3,598,452	
Special mention	1,129	3,681	617	6,335	187	193	17,988	74	30,204	
Substandard	2,716	6,162	2,210	16,164	20,321	28,402	39,037	6,896	121,908	
Total commercial business	\$ 525,460	\$ 668,295	\$ 340,754	\$ 230,698	\$ 179,613	\$ 275,681	\$ 1,513,357	\$ 16,706	\$ 3,750,564	
Agriculture										
Pass	\$ 141,623	\$ 119,538	\$ 68,621	\$ 67,689	\$ 20,570	\$ 91,411	\$ 301,607	\$ 1,345	\$ 812,404	
Special mention	3,890	659	—	198	—	33	598	—	5,378	
Substandard	1,425	1,280	2,104	2,986	20	6,105	17,201	—	31,121	
Total agriculture	\$ 146,938	\$ 121,477	\$ 70,725	\$ 70,873	\$ 20,590	\$ 97,549	\$ 319,406	\$ 1,345	\$ 848,903	
Construction										
Pass	\$ 220,558	\$ 208,472	\$ 20,334	\$ 14,329	\$ 2,437	\$ 3,192	\$ 67,559	\$ 1,037	\$ 537,918	
Special mention	—	734	—	—	—	—	—	—	734	
Substandard	—	—	—	1,717	443	49	—	—	2,209	
Total construction	\$ 220,558	\$ 209,206	\$ 20,334	\$ 16,046	\$ 2,880	\$ 3,241	\$ 67,559	\$ 1,037	\$ 540,861	
Consumer loans:										
One-to-four family residential real estate										
Pass	\$ 156,406	\$ 354,364	\$ 124,150	\$ 37,546	\$ 39,054	\$ 84,403	\$ 277,930	\$ 1,288	\$ 1,075,141	
Substandard	—	—	—	253	498	932	510	160	2,353	
Total one-to-four family residential real estate	\$ 156,406	\$ 354,364	\$ 124,150	\$ 37,799	\$ 39,552	\$ 85,335	\$ 278,440	\$ 1,448	\$ 1,077,494	
Other consumer										
Pass	\$ 5,235	\$ 2,614	\$ 1,169	\$ 819	\$ 1,209	\$ 7,833	\$ 21,276	\$ 201	\$ 40,356	
Substandard	—	—	—	—	—	10	—	—	10	
Total consumer	\$ 5,235	\$ 2,614	\$ 1,169	\$ 819	\$ 1,209	\$ 7,843	\$ 21,276	\$ 201	\$ 40,366	
Total	\$ 2,238,749	\$ 2,372,896	\$ 1,214,862	\$ 990,350	\$ 642,813	\$ 1,838,767	\$ 2,279,248	\$ 33,288	\$ 11,610,973	
Less:										
Allowance for credit losses										158,438
Loans, net										\$ 11,452,535

(1) Loans that are on short-term deferments are treated as Pass loans and will not be reported as past due provided that they are performing in accordance with the modified terms.

	Term Loans						Revolving Loans Amortized Cost Basis	Revolving Loans Converted to Term Loans Amortized Cost Basis	Total
	Amortized Cost Basis by Origination Year								
	2021	2020	2019	2018	2017	Prior			
December 31, 2021	<i>(in thousands)</i>								
Commercial loans:									
Commercial real estate									
Pass	\$ 1,068,493	\$ 760,545	\$ 650,593	\$ 492,348	\$ 515,233	\$ 1,180,115	\$ 74,754	\$ 3,644	\$ 4,745,725
Special mention	2,252	—	19,016	6,196	163	27,270	—	2,199	57,096
Substandard	4,119	5,897	45,769	9,112	29,917	82,599	1,029	—	178,442
Total commercial real estate	\$ 1,074,864	\$ 766,442	\$ 715,378	\$ 507,656	\$ 545,313	\$ 1,289,984	\$ 75,783	\$ 5,843	\$ 4,981,263
Commercial business									
Pass	\$ 891,957	\$ 426,004	\$ 280,823	\$ 217,605	\$ 144,363	\$ 232,356	\$ 1,028,616	\$ 35,411	\$ 3,257,135
Special mention	621	135	6,097	747	105	51	34,256	236	42,248
Substandard	4,329	4,610	18,393	28,066	20,568	27,462	18,796	1,661	123,885
Total commercial business	\$ 896,907	\$ 430,749	\$ 305,313	\$ 246,418	\$ 165,036	\$ 259,869	\$ 1,081,668	\$ 37,308	\$ 3,423,268
Agriculture									
Pass	\$ 147,561	\$ 87,964	\$ 74,658	\$ 29,739	\$ 46,058	\$ 79,693	\$ 266,573	\$ 5,448	\$ 737,694
Special mention	162	—	445	—	—	—	565	—	1,172
Substandard	—	7,717	9,148	1,616	5,532	1,833	29,125	1,878	56,849
Total agriculture	\$ 147,723	\$ 95,681	\$ 84,251	\$ 31,355	\$ 51,590	\$ 81,526	\$ 296,263	\$ 7,326	\$ 795,715
Construction									
Pass	\$ 228,661	\$ 53,880	\$ 35,795	\$ 3,183	\$ 3,285	\$ 2,189	\$ 55,765	\$ —	\$ 382,758
Substandard	—	—	1,748	—	—	249	—	—	1,997
Total construction	\$ 228,661	\$ 53,880	\$ 37,543	\$ 3,183	\$ 3,285	\$ 2,438	\$ 55,765	\$ —	\$ 384,755
Consumer loans:									
One-to-four family residential real estate									
Pass	\$ 390,153	\$ 140,799	\$ 56,520	\$ 51,549	\$ 32,447	\$ 111,307	\$ 222,747	\$ 1,347	\$ 1,006,869
Substandard	85	470	183	562	234	4,736	485	284	7,039
Total one-to-four family residential real estate	\$ 390,238	\$ 141,269	\$ 56,703	\$ 52,111	\$ 32,681	\$ 116,043	\$ 223,232	\$ 1,631	\$ 1,013,908
Other consumer									
Pass	\$ 7,045	\$ 2,711	\$ 1,950	\$ 13,489	\$ 560	\$ 1,277	\$ 15,853	\$ 97	\$ 42,982
Substandard	—	—	—	—	1	13	23	9	46
Total consumer	\$ 7,045	\$ 2,711	\$ 1,950	\$ 13,489	\$ 561	\$ 1,290	\$ 15,876	\$ 106	\$ 43,028
Total	\$ 2,745,438	\$ 1,490,732	\$ 1,201,138	\$ 854,212	\$ 798,466	\$ 1,751,150	\$ 1,748,587	\$ 52,214	\$ 10,641,937
Less:									
Allowance for credit losses									155,578
Loans, net									\$ 10,486,359

7. Other Real Estate Owned

The following table sets forth activity in OREO for the periods indicated:

	Years Ended December 31,	
	2022	2021
	<i>(in thousands)</i>	
Balance, beginning of period	\$ 381	\$ 553
Valuation adjustments	(182)	(140)
Proceeds from sale of OREO property	(200)	(132)
Gain on sale of OREO, net	1	100
Balance, end of period	<u>\$ —</u>	<u>\$ 381</u>

At December 31, 2022, there were no foreclosed residential real estate properties held as a result of obtaining physical possession and there were no consumer mortgage loans secured by residential real estate properties for which formal foreclosure proceedings were in process.

8. Premises and Equipment

Real and personal property and software, less accumulated depreciation and amortization, were as follows:

	December 31,	
	2022	2021
	<i>(in thousands)</i>	
Land	\$ 50,393	\$ 52,639
Buildings	116,005	119,546
Leasehold improvements	32,694	31,084
Furniture and equipment	40,712	41,313
Vehicles	525	476
Computer software	8,385	9,942
Total cost	<u>248,714</u>	<u>255,000</u>
Less accumulated depreciation and amortization	<u>(88,136)</u>	<u>(82,856)</u>
Total	<u>\$ 160,578</u>	<u>\$ 172,144</u>

Total depreciation and amortization expense was \$11.7 million, \$11.0 million, and \$10.7 million, for the years ended December 31, 2022, 2021, and 2020, respectively.

9. Goodwill and Other Intangible Assets

Goodwill is not amortized but is reviewed for potential impairment at the reporting unit level. Management analyzes its goodwill for impairment on an annual basis and between annual tests in certain circumstances such as upon material adverse changes in legal, business, regulatory and economic factors. An impairment loss is recorded to the extent that the carrying amount of goodwill exceeds its implied fair value. The Company performed its annual impairment assessment as of July 31, 2022 and concluded that there was no impairment. As of December 31, 2022, we determined there were no events or circumstances which would more likely than not reduce the fair value of our reporting unit below its carrying amount.

Our CDIs are evaluated for impairment if events and circumstances indicate possible impairment. The CDIs are amortized on an accelerated basis over an estimated life of 10 years each.

The following table sets forth activity for goodwill and other intangible assets for the periods indicated:

	Years Ended December 31,		
	2022	2021	2020
	<i>(in thousands)</i>		
Goodwill, beginning of period	\$ 823,172	\$ 765,842	\$ 765,842
Established through acquisition (1)	—	57,330	—
Total goodwill, end of period	<u>823,172</u>	<u>823,172</u>	<u>765,842</u>
Other intangible assets, net			
CDI:			
Gross CDI balance, beginning of period (2)	88,931	78,821	105,473
Accumulated amortization, beginning of period	(55,203)	(53,006)	(70,934)
CDI, net, beginning of period	<u>33,728</u>	<u>25,815</u>	<u>34,539</u>
Established through acquisition	—	15,900	—
CDI current period amortization	(8,698)	(7,987)	(8,724)
Total CDI, end of period	<u>25,030</u>	<u>33,728</u>	<u>25,815</u>
Intangible assets not subject to amortization	919	919	919
Other intangible assets, net at end of period	<u>25,949</u>	<u>34,647</u>	<u>26,734</u>
Total goodwill and intangible assets, end of period	<u>\$ 849,121</u>	<u>\$ 857,819</u>	<u>\$ 792,576</u>

(1) See Note 2, Business Combinations, for additional information regarding the goodwill related to the acquisition of Bank of Commerce on October 1, 2021.

(2) For the year ended December 31, 2021, the gross CDI balance, beginning of period has been adjusted to remove fully amortized amounts. Prior period columns have not been adjusted.

The following table provides the estimated future amortization expense of CDI for the succeeding five years:

	Years Ending December 31,	
	<i>(in thousands)</i>	
2023	\$	7,082
2024		5,673
2025		4,366
2026		3,225
2027		2,083

10. Leases

Lease Commitments

The Company's lease commitments consist primarily of leased locations under various non-cancellable operating leases that expire between 2023 and 2043. The majority of the leases contain renewal options and provisions for increases in rental rates based on an agreed upon index or predetermined escalation schedule.

The following table shows the details of the Company's operating lease right-of-use asset and the associated lease liability for the period indicated:

Item	Balance Sheet Location	December 31,	
		2022	2021
		<i>(in thousands)</i>	
Operating lease asset	Other assets	\$ 53,156	\$ 60,296
Operating lease liability	Other liabilities	\$ 58,543	\$ 66,375

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At December 31, 2022, the Company's operating leases have a weighted average remaining lease term of 7.0 years and a weighted average discount rate of 2.5%. Cash paid for amounts included in the measurement of operating lease liabilities was \$12.6 million and \$12.5 million for the years ended December 31, 2022 and 2021, respectively. Right-of-use assets obtained in exchange for new operating lease liabilities during the years ended December 31, 2022 and 2021 were \$1.9 million and \$7.2 million, respectively.

The following table shows the components of net lease costs:

Item	Statement of Income Location	Years Ended December 31,		
		2022	2021	2020
<i>(in thousands)</i>				
Operating lease cost (1)	Occupancy	\$ 12,133	\$ 11,760	\$ 11,073
Variable lease cost	Occupancy	1,987	1,800	1,732
Sublease income	Occupancy	(1,634)	(1,562)	(1,454)
Net lease cost		<u>\$ 12,486</u>	<u>\$ 11,998</u>	<u>\$ 11,351</u>

(1) Includes short-term lease costs, which are immaterial.

The following table shows the maturity analysis for operating leases as of December 31, 2022:

	Years Ending December 31,	
	<i>(in thousands)</i>	
2023	\$	11,597
2024		10,454
2025		9,110
2026		7,898
2027		6,851
Thereafter		18,269
Total future minimum lease payments		64,179
Amounts representing interest		(5,636)
Present value of minimum lease payments	\$	<u>58,543</u>

Sale-leaseback transactions:

In 2022, the Company sold one of its Oregon facilities and leased back two suites within the building. The lease terms are through September 2032 and September 2024, with monthly payments of approximately \$13 thousand and \$9 thousand, respectively. The sale-leaseback transaction resulted in a pre-tax gain of \$3.7 million in the year ended December 31, 2022.

For additional detail regarding the lease guidance, see [Note 1, "Summary of Significant Accounting Policies."](#)

11. Deposits

Year-end deposits are summarized in the following table:

	December 31,	
	2022 (1)	2021
<i>(in thousands)</i>		
Demand and other noninterest-bearing	\$ 8,373,350	\$ 8,856,714
Money market	2,972,838	3,525,299
Interest-bearing demand	1,980,631	1,999,407
Savings	1,555,765	1,617,546
Interest-bearing public funds, other than certificates of deposit	670,580	779,146
Certificates of deposit, less than \$250,000	215,848	249,120
Certificates of deposit, \$250,000 or more	124,411	160,490
Certificates of deposit insured by CD Option of IntraFi Network Deposits	21,828	35,611
Reciprocal money market accounts	796,199	786,046
Subtotal	16,711,450	18,009,379
Valuation adjustment resulting from acquisition accounting	—	736
Total deposits	<u>\$ 16,711,450</u>	<u>\$ 18,010,115</u>

(1) Includes \$259.4 million of noninterest-bearing deposits and \$325.7 million of interest-bearing deposits classified as held for sale at December 31, 2022.

Overdrafts of \$1.6 million and \$2.4 million were reclassified as loan balances at December 31, 2022 and 2021, respectively.

The following table shows the amount and maturity of time deposits:

	Years Ending December 31,	
	<i>(in thousands)</i>	
2023 (1)	\$	266,873
2024		62,907
2025		14,325
2026		9,688
2027		8,284
Thereafter		10
Total	<u>\$</u>	<u>362,087</u>

(1) Includes \$23.9 million of time deposits held for sale.

12. FHLB and FRB Borrowings

FHLB

The Company has entered into borrowing arrangements with the FHLB to borrow funds under a short-term floating rate fed funds overnight advance program and fixed-term loan agreements. All borrowings are secured by stock of the FHLB and a blanket pledge of qualifying loans receivable. The Company had aggregate borrowing capacity with the FHLB of \$1.92 billion and \$2.18 billion for the years ended December 31, 2022 and 2021, respectively and the Company had borrowed \$954.0 million as of December 31, 2022 and \$7.0 million as of December 31, 2021. See [Note 5, "Loans,"](#) for the carrying value of pledged loans.

At December 31, 2022, FHLB advances were scheduled to mature as follows:

	Federal Home Loan Bank Advances	
	Fixed rate advances	
	Weighted Average Rate	Amount
	<i>(dollars in thousands)</i>	
Within 1 year	4.42 %	\$ 949,000
Due after 10 years	5.37 %	5,000
Total		954,000
Valuation adjustment from acquisition accounting		315
Total		<u>\$ 954,315</u>

The maximum, average outstanding and year end balances and average interest rates on advances from the FHLB were as follows for the years ended December 31, 2022, 2021 and 2020:

	Years ended December 31,		
	2022	2021	2020
	<i>(dollars in thousands)</i>		
Balance at end of period	\$ 954,315	\$ 7,359	\$ 7,414
Average balance during period	\$ 112,012	\$ 7,388	\$ 341,643
Maximum month end balance during period	\$ 954,315	\$ 7,409	\$ 1,005,464
Weighted average rate during period	4.23 %	4.94 %	1.82 %
Weighted average rate at December 31	4.43 %	4.94 %	4.94 %

FRB

The Company pledges securities and loans for borrowing capacity at the FRB and had a borrowing capacity with the FRB of \$198.8 million and \$226.0 million for the years ended December 31, 2022 and 2021, respectively. See [Note 4, "Securities,"](#) for the carrying value of pledged investment securities and [Note 5, "Loans,"](#) for the carrying value of pledged loans. In 2020, the Company was also eligible to borrow under the PPPLF utilizing PPP loans as collateral; however this facility terminated on July 30, 2021. The Company had no borrowings as of December 31, 2022 and average borrowings of \$1.7 million for 2022. The Company had no borrowings as of December 31, 2021 and only test overnight borrowings during the year resulting in no average borrowings for 2021. While the Company also had no borrowings as of December 31, 2020, there were overnight borrowings, in addition to short-term test borrowings under the PPPLF at a rate of 0.35%, resulting in average borrowings of \$1.1 million for 2020.

13. Securities Sold Under Agreements to Repurchase

The Company's securities sold under agreements to repurchase consist of sweep repurchase agreements that are generally short-term agreements. These agreements are treated as financing transactions and the obligations to repurchase securities sold are reflected as a liability in the Consolidated Financial Statements. The dollar amount of securities underlying the agreements remains in the applicable asset account of the Consolidated Financial Statements. These agreements had a balance of \$95.2 million and a weighted average interest rate of 3.94% at December 31, 2022. All of these repurchase agreements in existence at December 31, 2022 mature on a daily basis. Securities available for sale with a carrying amount of \$106.1 million at December 31, 2022 were pledged as collateral for the sweep repurchase agreement borrowings.

14. Subordinated Debentures

On October 1, 2021, with its acquisition of Bank of Commerce, the Company assumed \$10.0 million in aggregate principal amount of fixed-to-floating rate subordinated debentures. Interest on the subordinated debentures will be paid at a variable rate equal to three-month LIBOR plus 5.26%, payable quarterly until the maturity date of December 10, 2025.

15. Junior Subordinated Debentures

On October 1, 2021, with its acquisition of Bank of Commerce, the Company assumed \$10.3 million of trust preferred obligations. These obligations bear a contractual interest rate of junior subordinated debentures based on the three-month LIBOR plus 1.58% adjusted quarterly and are redeemable at the Company's option on any March 15, June 15, September 15, or December 15.

16. Revolving Line of Credit

The Company has a \$15.0 million short-term credit facility with an unaffiliated bank. This facility, which expires May 25, 2023, has a variable interest rate and provides the Company additional liquidity, if needed, for various corporate activities. As of December 31, 2022, there was no outstanding balance. The credit agreement requires the Company to comply with certain covenants, including those related to asset quality and capital levels. The Company was in compliance with all covenants associated with this facility at December 31, 2022.

17. Derivatives and Balance Sheet Offsetting

The Company is exposed to certain risks arising from both its business and economic conditions. The Company principally manages its exposures to a wide variety of business and operational risks through management of its core business activities. The Company manages economic risks, including interest rate, liquidity and credit risk, primarily by managing the amount, sources and duration of its assets and liabilities as well as the use of derivative financial instruments. Specifically, the Company enters into interest rate-based derivative financial instruments to manage exposures that arise from business activities that result in the receipt or payment of future known and uncertain cash amounts. The Company's derivative financial instruments are used to manage differences in the amount, timing and duration of the Company's known or expected cash receipts and its known or expected cash payments principally related to the Company's loan portfolio.

The Company's objectives in using interest rate derivatives are to add stability to interest income and to manage its exposure to interest rate movements. To accomplish this objective, the Company used an interest rate collar as part of its interest rate risk management strategy. Interest rate collars designated as cash flow hedges involve the payments of variable-rate amounts if interest rates rise above the cap strike rate on the contract and receipts of variable-rate amounts if interest rates fall below the floor strike rate on the contract. These derivative contracts were used to hedge the variable cash flows associated with existing variable-rate assets.

With respect to derivatives designated and that qualify as cash flow hedges of interest rate risk, the gain or loss on the derivative is recorded in accumulated other comprehensive income (loss) and subsequently reclassified into interest income in the same period(s) during which the hedged transaction affects earnings. Amounts reported in accumulated other comprehensive income (loss) related to derivatives are reclassified to interest income as interest payments are received on the Company's variable-rate assets. During the next 12 months, the Company estimates that there will be \$10.4 million reclassified as an increase to interest income.

The Company may use derivatives to hedge the risk or changes in the fair values of interest rate lock commitments and residential mortgage loans held for sale. These derivatives are not designated as hedging instruments. Rather, they are accounted for as free-standing derivatives, or economic hedges, with changes in the fair value of the derivatives reported in income. The Company primarily utilizes interest rate forward loan sales contracts in its derivative risk management strategy.

The Company enters into forward delivery contracts to sell residential mortgage loans to broker/dealers at specific prices and dates in order to hedge the interest rate risk in its portfolio of mortgage loans held for sale and its residential mortgage interest rate lock commitments. Credit risk associated with forward contracts is limited to the replacement cost of those forward contracts in a gain position. There were no counterparty default losses on forward contracts during the years ended December 31, 2022, 2021 and 2020. Market risk with respect to forward contracts arises principally from changes in the value of contractual positions due to changes in interest rates. The Bank limits its exposure to market risk by monitoring differences between commitments to customers and forward contracts with broker/dealers. In the event the Company has forward delivery contract commitments in excess of available mortgage loans, the Company completes the transaction by either paying or receiving a fee to or from the broker/dealer equal to the increase or decrease in the market value of the forward contract. At December 31, 2022 the Bank had no commitments to originate mortgage loans held for sale under the mandatory delivery method and had \$21.8 million of loans held for sale under the mandatory delivery method at December 31, 2021. The Bank had no forward sales commitments at December 31, 2022 and had \$18.5 million at December 31, 2021, which are used to hedge both on-balance sheet and off-balance sheet exposures.

In addition, the Company periodically enters into certain commercial loan interest rate swap agreements in order to provide commercial loan customers the ability to convert from variable to fixed interest rates. Under these agreements, the Company enters into a variable-rate loan agreement with a customer in addition to a swap agreement. This swap agreement effectively converts the customer's variable rate loan into a fixed rate loan. The Company then enters into a corresponding swap agreement with a third party in order to offset its exposure on the variable and fixed components of the customer agreement. As the interest rate swap agreements with the customers and third parties are not designated as hedges under the Derivatives and Hedging topic of the FASB ASC, the instruments are marked to market in earnings. The notional amount of open interest rate swap agreements at December 31, 2022 and 2021 was \$520.9 million and \$570.2 million, respectively.

The following table presents the fair value of derivatives, as well as their classification on the Balance Sheet at December 31, 2022 and 2021:

	Asset Derivatives				Liability Derivatives			
	2022		2021		2022		2021	
	Balance Sheet Location	Fair Value	Balance Sheet Location	Fair Value	Balance Sheet Location	Fair Value	Balance Sheet Location	Fair Value
<i>(in thousands)</i>								
Derivatives not designated as hedging instruments:								
Interest rate lock commitments	Other assets	\$ —	Other assets	\$ 356	Other liabilities	\$ —	Other liabilities	\$ —
Interest rate forward loan sales contracts	Other assets	\$ —	Other assets	\$ —	Other liabilities	\$ —	Other liabilities	\$ 27
Interest rate swap contracts	Other assets	\$ 40,289	Other assets	\$ 24,257	Other liabilities	\$ 40,289	Other liabilities	\$ 24,257

The table below presents the effect of cash flow hedge accounting on accumulated other comprehensive income (loss) for the years ended December 31, 2022 and 2021:

	Amount of Gain or (Loss) Recognized in Accumulated Other Comprehensive Income on Derivative		Location of Gain or (Loss) Reclassified from Accumulated Other Comprehensive Income into Income	Amount of Gain or (Loss) Reclassified from Accumulated Other Comprehensive Income into Income	
	Years Ended December 31,			Years Ended December 31,	
	2022	2021		2022	2021
<i>(in thousands)</i>					
Interest rate collar	\$ —	\$ —	Interest income	\$ 10,441	\$ 10,441

In January 2019, the Company entered into a \$500.0 million notional interest rate collar with a five-year term. In October 2020, the collar was terminated and resulted in a \$34.4 million realized gain that was recorded in accumulated other comprehensive income, net of deferred income taxes. The gain will amortize through February 2024 into interest income. The gain will be amortized in this manner as long as the cash flows pertaining to the hedged item are expected to occur.

The following table summarizes the types of derivatives not designated as hedging instruments and the gains (losses) recorded during the years ended December 31, 2022, 2021 and 2020:

	Years ended December 31,		
	2022	2021	2020
	<i>(in thousands)</i>		
Interest rate lock commitments	\$ (356)	\$ (740)	\$ 1,096
Interest rate forward loan sales contracts	27	139	(165)
Interest rate swap contracts	—	50	(452)
Total derivative gains (losses)	<u>\$ (329)</u>	<u>\$ (551)</u>	<u>\$ 479</u>

The gains and losses on the Company's mortgage banking derivatives are included in loan revenue. Mark-to-market gains and losses on the Company's interest rate swap contracts are recorded to "Other" noninterest expense.

The Company is party to interest rate swap contracts, interest rate collar and repurchase agreements that are subject to enforceable master netting arrangements or similar agreements. Under these agreements, the Company may have the right to net settle multiple contracts with the same counterparty.

The following tables show the gross interest rate swap contracts, collar agreements and repurchase agreements in the Consolidated Balance Sheets and the respective collateral received or pledged in the form of cash or other financial instruments. The collateral amounts in these tables are limited to the outstanding balances of the related asset or liability. Therefore, instances of overcollateralization are not shown.

	Gross Amounts of Recognized Assets/Liabilities	Gross Amounts Offset in the Consolidated Balance Sheets	Net Amounts of Assets/Liabilities Presented in the Consolidated Balance Sheets	Gross Amounts Not Offset in the Consolidated Balance Sheets	
				Collateral Pledged/Received	Net Amount
December 31, 2022					
<i>(in thousands)</i>					
Assets					
Interest rate swap contracts	\$ 40,289	\$ —	\$ 40,289	\$ (39,450)	\$ 839
Liabilities					
Interest rate swap contracts	\$ 40,289	\$ —	\$ 40,289	\$ (180)	\$ 40,109
Repurchase agreements	\$ 95,168	\$ —	\$ 95,168	\$ (95,168)	\$ —
December 31, 2021					
Assets					
Interest rate swap contracts	\$ 24,257	\$ —	\$ 24,257	\$ (450)	\$ 23,807
Liabilities					
Interest rate swap contracts	\$ 24,257	\$ —	\$ 24,257	\$ (20,747)	\$ 3,510
Repurchase agreements	\$ 86,013	\$ —	\$ 86,013	\$ (86,013)	\$ —

The Company's agreements with each of its derivative counterparties provide that if the Company defaults or is capable of being declared in default on any of its indebtedness, the Company could also be declared in default on its derivative obligations.

The following table presents the class of collateral pledged for repurchase agreements as well as the remaining contractual maturity of the repurchase agreements:

	Remaining contractual maturity of the agreements				Total
	Overnight and continuous	Up to 30 days	30 - 90 days	Greater than 90 days	
December 31, 2022	<i>(in thousands)</i>				
Class of collateral pledged for repurchase agreements					
U.S. government agency and government-sponsored enterprise mortgage-backed securities and collateralized mortgage obligations	\$ 95,168	\$ —	\$ —	\$ —	\$ 95,168
Gross amount of recognized liabilities for repurchase agreements					95,168
Amounts related to agreements not included in offsetting disclosure					\$ —

The collateral utilized for the Company's repurchase agreements is subject to market fluctuations as well as prepayments of principal. The Company monitors the risk of the fair value of its pledged collateral falling below acceptable amounts based on the type of the underlying repurchase agreement. The pledged collateral related to the Company's \$95.2 million sweep repurchase agreements, which mature on an overnight basis, is monitored on a daily basis as the underlying sweep accounts can have frequent transaction activity and the amount of pledged collateral is adjusted as necessary.

18. Employee Benefit Plans

401(k) Plan

The Company maintains defined contribution and profit sharing plans in conformity with the provisions of section 401(k) of the Internal Revenue Code. The Columbia Bank 401(k) Plan, permits Columbia Bank employees who are at least 18 years of age to contribute up to 75% of their eligible compensation to the 401(k) Plan starting on the first day of the month following their hire date. On a per pay period basis the Company is required to match 50% of employee contributions up to 3% of each employee's eligible compensation. The Company contributed \$3.5 million during 2022, \$4.0 million during 2021 and \$3.8 million during 2020, in matching funds to the 401(k) Plan. Additionally, as determined annually by the board of directors of the Company, the 401(k) Plan provides for a non-matching discretionary profit sharing contribution. The Company's discretionary profit sharing contributions were \$8.0 million during 2022, \$7.7 million during 2021 and \$8.1 million during 2020.

Employee Stock Purchase Plan

The Company maintains an ESP Plan in which substantially all employees of the Company are eligible to participate. The ESP Plan provides participants the opportunity to purchase common stock of the Company at a discounted price. Under the ESP Plan, participants can purchase common stock of the Company for 90% of the lowest price on either the first or last day in each of two look-back periods of six months from January 1st through June 30th and July 1st through December 31st of each calendar year. The 10% discount is recognized by the Company as compensation expense and does not have a material impact on net income or earnings per common share. Participants of the ESP Plan purchased 74,627 shares for \$2.2 million in 2022, 63,586 shares for \$2.3 million in 2021 and 79,297 shares for \$2.2 million in 2020. At December 31, 2022 there were 85,646 shares available for purchase under the ESP Plan.

Supplemental Compensation Plan

The Company maintains Unit Plans to provide benefits for certain employees. The Unit Plans generally vest over a 10 year period and provide a fixed annual benefit over the subsequent 10 year period. The liability associated with these plans was \$3.8 million at both December 31, 2022 and 2021. Expense associated with these plans for the years ended December 31, 2022, 2021 and 2020 was \$471 thousand, \$363 thousand and \$488 thousand, respectively.

Supplemental Executive Retirement Plan

The Company maintains a SERP, a nonqualified deferred compensation plan that provides retirement benefits to certain highly compensated executives. The SERP is unsecured and unfunded and there are no program assets. The SERP projected benefit obligation, which represents the vested net present value of future payments to individuals under the plan is accrued over the estimated remaining term of employment of the participants and has been determined by actuarial valuation using a discount rate of 5.25% for 2022 and 2.84% for 2021. Additional assumptions and features of the plan are a normal retirement age of 65 and a 2% annual cost of living benefit adjustment. The projected benefit obligation is included in “Other liabilities” on the Consolidated Balance Sheets.

The following table reconciles the accumulated liability for the projected benefit obligation:

	December 31,	
	2022	2021
	<i>(in thousands)</i>	
Balance, beginning of year	\$ 32,094	\$ 27,402
Established through acquisitions	—	4,889
Actuarial loss (gain)	(5,850)	(732)
Benefit expense	1,854	1,735
Benefit payments	(1,567)	(1,200)
Balance, end of year	<u>\$ 26,531</u>	<u>\$ 32,094</u>

The benefits expected to be paid in conjunction with the SERP are presented in the following table:

	Years Ending December 31,	
	<i>(in thousands)</i>	
2023	\$	1,856
2024		2,155
2025		2,348
2026		2,311
2027		2,294
2028 through 2032		9,553
Total	<u>\$</u>	<u>20,517</u>

19. Commitments and Contingent Liabilities

Financial Instruments with Off-Balance Sheet Risk - In the normal course of business, the Company makes loan commitments (typically unfunded loans and unused lines of credit) and issues standby letters of credit to accommodate the financial needs of its customers.

Standby letters of credit commit the Company to make payments on behalf of customers under specified conditions. Historically, no significant losses have been incurred by the Company under standby letters of credit. Both arrangements have credit risk essentially the same as that involved in extending loans to customers and are subject to the Company’s normal credit policies, including collateral requirements, where appropriate. At December 31, 2022 and 2021, the Company’s loan commitments were \$3.91 billion and \$3.50 billion, respectively. Standby letters of credit were \$33.2 million and \$36.0 million at December 31, 2022 and 2021, respectively.

Legal Proceedings - The Company and its subsidiaries are from time to time defendants in and are threatened with various legal proceedings arising from their regular business activities. Management, after consulting with legal counsel, is of the opinion that the ultimate liability, if any, resulting from these pending or threatened actions and proceedings will not have a material effect on the financial statements of the Company.

20. Shareholders' Equity

Dividends

The following summarizes the dividend activity for the year ended December 31, 2022:

Declared	Regular Cash Dividends Per Common Share	Record Date	Paid Date
January 19, 2022	\$ 0.30	February 2, 2022	February 16, 2022
April 21, 2022	\$ 0.30	May 4, 2022	May 18, 2022
July 21, 2022	\$ 0.30	August 3, 2022	August 17, 2022
October 5, 2022	\$ 0.30	October 17, 2022	October 28, 2022

Subsequent to year end, on January 24, 2023, the Company declared a regular quarterly cash dividend of \$0.30 per common share payable on February 21, 2023, to shareholders of record at the close of business on February 6, 2023.

The payment of cash dividends is subject to federal regulatory requirements for capital levels and other restrictions. In addition, the cash dividends paid by Columbia Bank to the Company are subject to both federal and state regulatory requirements.

21. Accumulated Other Comprehensive Loss

The following table shows changes in accumulated other comprehensive income (loss) by component for the years ended December 31, 2022, 2021 and 2020:

	Unrealized Gains and Losses on Available for Sale Securities (1)	Unrealized Gains and Losses on Pension Plan Liability (1)	Unrealized Gains and Losses on Hedging Instruments (1)	Total (1)
<i>(in thousands)</i>				
Year Ended December 31, 2022				
Beginning balance	\$ 23,134	\$ (4,812)	\$ 16,840	\$ 35,162
Other comprehensive income (loss) before reclassifications	(536,262)	4,533	—	(531,729)
Amounts reclassified from accumulated other comprehensive income (2)	(6,067)	402	(8,263)	(13,928)
Net current-period other comprehensive income (loss)	(542,329)	4,935	(8,263)	(545,657)
Ending balance	\$ (519,195)	\$ 123	\$ 8,577	\$ (510,495)
Year Ended December 31, 2021				
Beginning balance	\$ 163,174	\$ (5,833)	\$ 24,854	\$ 182,195
Other comprehensive income (loss) before reclassifications	(137,482)	562	—	(136,920)
Amounts reclassified from accumulated other comprehensive income (2)	(2,558)	459	(8,014)	(10,113)
Net current-period other comprehensive income (loss)	(140,040)	1,021	(8,014)	(147,033)
Ending balance	\$ 23,134	\$ (4,812)	\$ 16,840	\$ 35,162
Year Ended December 31, 2020				
Beginning balance	\$ 33,038	\$ (3,974)	\$ 11,303	\$ 40,367
Other comprehensive income (loss) before reclassifications	130,355	(2,177)	20,012	148,190
Amounts reclassified from accumulated other comprehensive income (2)	(219)	318	(6,461)	(6,362)
Net current-period other comprehensive income (loss)	130,136	(1,859)	13,551	141,828
Ending balance	\$ 163,174	\$ (5,833)	\$ 24,854	\$ 182,195

(1) All amounts are net of tax. Amounts in parentheses indicate debits.

(2) See following table for details about these reclassifications.

The following table shows details regarding the reclassifications from accumulated other comprehensive income for the years ended December 31, 2022, 2021 and 2020:

	Amount Reclassified from Accumulated Other Comprehensive Income			Affected line Item in the Consolidated Statement of Income
	Years Ended December 31,			
	2022	2021	2020	
	<i>(in thousands)</i>			
Unrealized gains (losses) on available for sale debt securities	\$ (9)	\$ 315	\$ 285	Investment securities gains (losses), net
Amortization of unrealized gains related to securities transfer	7,814	3,018	—	Taxable securities
	7,805	3,333	285	Total before tax
	(1,738)	(775)	(66)	Income tax provision
	<u>\$ 6,067</u>	<u>\$ 2,558</u>	<u>\$ 219</u>	Net of tax
Amortization of pension plan liability actuarial losses	\$ (524)	\$ (598)	\$ (414)	Compensation and employee benefits
	(524)	(598)	(414)	Total before tax
	122	139	96	Income tax provision
	<u>\$ (402)</u>	<u>\$ (459)</u>	<u>\$ (318)</u>	Net of tax
Unrealized gains from hedging instruments	\$ 10,441	\$ 10,441	\$ 8,418	Loans
	10,441	10,441	8,418	Total before tax
	(2,178)	(2,427)	(1,957)	Income tax provision
	<u>\$ 8,263</u>	<u>\$ 8,014</u>	<u>\$ 6,461</u>	Net of tax

22. Fair Value Accounting and Measurement

The Fair Value Measurements and Disclosures topic of the FASB ASC defines fair value, establishes a consistent framework for measuring fair value and expands disclosure requirements about fair value. We hold fixed and variable rate interest-bearing securities, investments in marketable equity securities and certain other financial instruments, which are carried at fair value. Fair value is determined based upon quoted prices when available or through the use of alternative approaches, such as matrix or model pricing, when market quotes are not readily accessible or available.

The valuation techniques are based upon observable and unobservable inputs. Observable inputs reflect market data obtained from independent sources, while unobservable inputs reflect our own market assumptions. These two types of inputs create the following fair value hierarchy:

Level 1 – Quoted prices for identical instruments in active markets that are accessible at the measurement date.

Level 2 – Quoted prices for similar instruments in active markets; quoted prices for identical or similar instruments in markets that are not active; and model derived valuations whose inputs are observable or whose significant value drivers are observable.

Level 3 – Prices or valuation techniques that require inputs that are both significant to the fair value measurement and unobservable.

Fair values are determined as follows:

Debt securities at fair value are priced using a combination of market activity, industry recognized information sources, yield curves, discounted cash flow models and other factors. These fair value calculations are considered a Level 2 input method under the provisions of the Fair Value Measurements and Disclosures topic of the FASB ASC for all debt securities.

Loans held for sale include the fair value of residential mortgage loans originated as held for sale determined based on quoted secondary market prices for similar loans, including the implicit fair value of embedded servicing rights. The change in fair value of loans held for sale is primarily driven by changes in interest rates subsequent to loan funding and changes in the fair value of the related servicing asset, resulting in revaluation adjustments to the recorded fair value.

The fair value of the interest rate lock commitments and interest rate forward loan sales contracts are estimated using quoted or published market prices for similar instruments, adjusted for factors such as pull-through rate assumptions based on historical information, where appropriate. The pull-through rate assumptions are considered Level 3 valuation inputs and are significant to the interest rate lock commitment valuation; as such, the interest rate lock commitment derivatives are classified as Level 3.

Interest rate swap contracts and the interest rate collar are valued in models, which use as their basis, readily observable market parameters and are classified within Level 2 of the valuation hierarchy.

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The following table sets forth the Company's financial assets and liabilities that were accounted for at fair value on a recurring basis at December 31, 2022 and 2021 by level within the fair value hierarchy. Financial assets and liabilities are classified in their entirety based on the lowest level of input that is significant to the fair value measurement:

	Fair Value at December 31, 2022	Fair Value Measurements at Reporting Date Using		
		Level 1	Level 2	Level 3
<i>(in thousands)</i>				
Assets				
Debt securities available for sale:				
U.S. government agency and government-sponsored enterprise mortgage-backed securities and collateralized mortgage obligations	\$ 2,759,710	\$ —	\$ 2,759,710	\$ —
Other asset-backed securities	327,353	—	327,353	—
State and municipal securities	834,073	—	834,073	—
U.S. government agency and government-sponsored enterprise securities	208,769	—	208,769	—
U.S. government securities	167,896	167,896	—	—
Non-agency collateralized mortgage obligations	291,298	—	291,298	—
Total debt securities available for sale	\$ 4,589,099	\$ 167,896	\$ 4,421,203	\$ —
Loans held for sale	\$ 907	\$ —	\$ 907	\$ —
Other assets:				
Interest rate swap contracts	\$ 40,289	\$ —	\$ 40,289	\$ —
Liabilities				
Other liabilities:				
Interest rate swap contracts	\$ 40,289	\$ —	\$ 40,289	\$ —

	Fair Value at December 31, 2021	Fair Value Measurements at Reporting Date Using		
		Level 1	Level 2	Level 3
<i>(in thousands)</i>				
Assets				
Debt securities available for sale:				
U.S. government agency and government-sponsored enterprise mortgage-backed securities and collateralized mortgage obligations	\$ 3,745,601	\$ —	\$ 3,745,601	\$ —
Other asset-backed securities	463,063	—	463,063	—
State and municipal securities	997,291	—	997,291	—
U.S. government agency and government-sponsored enterprise securities	252,576	—	252,576	—
U.S. government securities	157,536	157,536	—	—
Non-agency collateralized mortgage obligations	294,932	—	294,932	—
Total debt securities available for sale	\$ 5,910,999	\$ 157,536	\$ 5,753,463	\$ —
Loans held for sale	\$ 9,570	\$ —	\$ 9,570	\$ —
Other assets:				
Interest rate lock commitments	\$ 356	\$ —	\$ —	\$ 356
Interest rate swap contracts	\$ 24,257	\$ —	\$ 24,257	\$ —
Liabilities				
Other liabilities:				
Interest rate forward loan sales contracts	\$ 27	\$ —	\$ 27	\$ —
Interest rate swap contracts	\$ 24,257	\$ —	\$ 24,257	\$ —

Assets and Liabilities Measured at Fair Value Using Significant Unobservable Inputs (Level 3)

The following table provides a description of the valuation technique, significant unobservable inputs, and qualitative information about the unobservable inputs for the Company's assets and liabilities classified as Level 3 and measured at fair value on a recurring basis at December 31, 2021. The Company did not have recurring Level 3 fair value measurements at December 31, 2022.

	Fair Value at December 31, 2021	Valuation Technique	Unobservable Input	Range (Weighted Average)
<i>(dollars in thousands)</i>				
Interest rate lock commitments	\$ 356	Internal pricing model	Pull-through rate	80.22% - 96.59% (87.84%)

An increase in the pull-through rate utilized in the fair value measurement of the interest rate lock commitment derivative will result in positive fair value adjustments (and an increase in the fair value measurement). Conversely, a decrease in the pull-through rate will result in a negative fair value adjustment (and a decrease in the fair value measurement).

The following table includes a rollforward of interest rate lock commitments which utilize Level 3 inputs to determine the fair value on a recurring basis.

	Years Ended December 31,	
	2022	2021
<i>(in thousands)</i>		
Balance at the beginning of the period	\$ 356	\$ 1,096
Change included in earnings	215	7,051
Settlements	(571)	(7,791)
Balance at the end of the period	<u>\$ —</u>	<u>\$ 356</u>

Nonrecurring Measurements

Certain assets and liabilities are measured at fair value on a nonrecurring basis after initial recognition such as collateral dependent loans. The following valuation techniques and inputs were used to estimate the fair value of collateral dependent loans.

Collateral dependent loans - A collateral dependent loan is a loan in which repayment is expected to be provided solely by the underlying collateral. The fair market value of the collateral is determined by either the discounted expected future cash flows from the operation of the collateral or the appraised value of the collateral, less costs to sell. The collateral dependent loan valuations are performed in conjunction with the allowance for credit losses process on a quarterly basis.

OREO - OREO is real property that the Bank has taken ownership of in partial or full satisfaction of a loan or loans. OREO is generally measured based on the property's fair market value as indicated by an appraisal or a letter of intent to purchase. OREO is initially recorded at the fair value less estimated costs to sell. This amount becomes the property's new basis. Any fair value adjustments based on the property's fair value less estimated costs to sell at the date of acquisition are charged to the allowance for credit losses, or in the event of a write-up without previous losses charged to the allowance for credit losses, a credit to earnings is recorded. Management periodically reviews OREO in an effort to ensure the property is recorded at its fair value, net of estimated costs to sell. Any fair value adjustments subsequent to acquisition are charged or credited to earnings.

The following table sets forth the Company's assets that were measured using fair value estimates on a nonrecurring basis during the years ended December 31, 2022 and 2021:

	Fair Value at December 31, 2022	Fair Value Measurements at Reporting Date Using			Gains (Losses) During the Year Ended December 31, 2022
		Level 1	Level 2	Level 3	
<i>(in thousands)</i>					
Collateral dependent loans	\$ 195	\$ —	\$ —	\$ 195	\$ (1,561)

	Fair Value at December 31, 2021	Fair Value Measurements at Reporting Date Using			Gains (Losses) During the Year Ended December 31, 2021
		Level 1	Level 2	Level 3	
<i>(in thousands)</i>					
Collateral dependent loans	\$ 7,615	\$ —	\$ —	\$ 7,615	\$ (1,976)
OREO	375	—	—	375	(140)

The losses on collateral dependent loans disclosed above represent the amount of the allowance for credit losses and/or charge-offs during the period applicable to loans held at period end. The amount of the allowance is included in the ACL. The losses on OREO disclosed above represent the write-downs taken after foreclosure as a result of subsequent changes in valuation from updated appraisals that were recorded to earnings.

Quantitative information about Level 3 fair value measurements

The range and weighted average of the significant unobservable inputs used to fair value our Level 3 nonrecurring assets during 2022 and 2021, along with the valuation techniques used, are shown in the following tables:

	Fair Value at December 31, 2022	Valuation Technique	Unobservable Input	Range (Weighted Average)
<i>(dollars in thousands)</i>				
Collateral dependent loans (1)	\$ 195	Fair Market Value of Collateral	Adjustment to Stated Value	N/A (2)

(1) Collateral consists of real estate.

(2) Quantitative disclosures are not provided for collateral dependent loans because there were no adjustments made to the appraisal values or stated values during the period.

	Fair Value at December 31, 2021	Valuation Technique	Unobservable Input	Range (Weighted Average) (1)
<i>(dollars in thousands)</i>				
Collateral dependent loans (2)	\$ 7,615	Fair Market Value of Collateral	Adjustment to Stated Value	0.00% - 100.00% (48.00%)
OREO	\$ 375	Fair Market Value of Collateral	Adjustment to Appraisal Value	N/A (3)

(1) Adjustment applied to appraisal value and stated value (in the case of fixed assets, accounts receivable and inventory).

(2) Collateral consists of accounts receivable, inventory, fixed assets, intangible assets and real estate.

(3) Quantitative disclosures are not provided for OREO because there were no adjustments made to the appraisal values or stated values during the period.

The following tables summarize carrying amounts and estimated fair values of selected financial instruments for the periods indicated:

December 31, 2022					
	Carrying Amount	Fair Value	Level 1	Level 2	Level 3
<i>(in thousands)</i>					
Assets					
Cash and due from banks	\$ 262,458	\$ 262,458	\$ 262,458	\$ —	\$ —
Interest-earning deposits with banks	29,283	29,283	29,283	—	—
Debt securities available for sale	4,589,099	4,589,099	167,896	4,421,203	—
Debt securities held to maturity	2,034,792	1,722,778	—	1,722,778	—
FHLB stock	48,160	48,160	—	48,160	—
Loans held for sale	76,843	76,843	—	76,843	—
Loans	11,452,535	11,072,802	—	—	11,072,802
Interest rate contracts	40,289	40,289	—	40,289	—
Liabilities					
Time deposits	\$ 362,087	\$ 351,084	\$ —	\$ 351,084	\$ —
FHLB advances and FRB borrowings	954,315	954,147	—	954,147	—
Repurchase agreements	95,168	95,168	—	95,168	—
Subordinated debentures	10,000	10,013	—	10,013	—
Junior subordinated debentures	10,310	9,919	—	9,919	—
Interest rate contracts	40,289	40,289	—	40,289	—
December 31, 2021					
	Carrying Amount	Fair Value	Level 1	Level 2	Level 3
<i>(in thousands)</i>					
Assets					
Cash and due from banks	\$ 153,414	\$ 153,414	\$ 153,414	\$ —	\$ —
Interest-earning deposits with banks	671,300	671,300	671,300	—	—
Debt securities available for sale	5,910,999	5,910,999	157,536	5,753,463	—
Debt securities held to maturity	2,148,327	2,122,606	—	2,122,606	—
FHLB stock	10,280	10,280	—	10,280	—
Loans held for sale	9,774	9,774	—	9,774	—
Loans	10,486,359	10,679,349	—	—	10,679,349
Interest rate contracts	24,257	24,257	—	24,257	—
Interest rate lock commitments	356	356	—	—	356
Liabilities					
Time deposits	\$ 445,957	\$ 430,682	\$ —	\$ 430,682	\$ —
FHLB advances and FRB borrowings	7,359	8,752	—	8,752	—
Repurchase agreements	86,013	86,013	—	86,013	—
Subordinated debentures	10,000	10,125	—	10,125	—
Junior subordinated debentures	10,310	9,927	—	9,927	—
Interest rate contracts	24,257	24,257	—	24,257	—
Interest rate forward loan sales contracts	27	27	—	27	—

At December 31, 2022 the Company did not have any loans held for sale sold under the mandatory delivery method accounted for under the fair value option while at December 31, 2021 the Company had this type of loans held for sale with a fair value of \$9.6 million and an aggregate unpaid principle balance of \$9.4 million, resulting in an aggregate difference of \$169 thousand.

Residential mortgage loans held for sale that are sold under the mandatory delivery method and accounted for under the fair value option are measured initially at fair value with subsequent changes in fair value recognized in earnings. Gains and losses from such changes in fair value are reported in loan revenue. For the years ended December 31, 2022 and 2021, the Company recorded net decreases in fair value of \$169 thousand and \$339 thousand, respectively, representing the change in fair value reflected in earnings. For the year ended December 31, 2020, the Company recorded a net increase of \$508 thousand, representing the change in fair value reflected in earnings.

23. Earnings Per Common Share

The Company applies the two-class method of computing basic and diluted EPS. Under the two-class method, EPS is determined for each class of common stock and participating security according to dividends declared and participation rights in undistributed earnings. The Company has issued restricted shares under share-based compensation plans which qualify as participating securities.

The following table sets forth the computation of basic and diluted EPS for the periods indicated:

	Years Ended December 31,		
	2022	2021	2020
	<i>(in thousands except per share amounts)</i>		
Basic EPS:			
Net income	\$ 250,178	\$ 202,820	\$ 154,244
Less: Earnings allocated to participating securities			
Nonvested restricted shares	50	330	712
Earnings allocated to common shareholders	<u>\$ 250,128</u>	<u>\$ 202,490</u>	<u>\$ 153,532</u>
Weighted average common shares outstanding	78,047	72,683	70,835
Basic earnings per common share	<u>\$ 3.20</u>	<u>\$ 2.79</u>	<u>\$ 2.17</u>
Diluted EPS:			
Earnings allocated to common shareholders	<u>\$ 250,128</u>	<u>\$ 202,490</u>	<u>\$ 153,532</u>
Weighted average common shares outstanding	78,047	72,683	70,835
Dilutive effect of equity awards and warrants	146	190	45
Weighted average diluted common shares outstanding	<u>78,193</u>	<u>72,873</u>	<u>70,880</u>
Diluted earnings per common share	<u>\$ 3.20</u>	<u>\$ 2.78</u>	<u>\$ 2.17</u>
Potentially dilutive RSAs and RSUs that were not included in the computation of diluted EPS because to do so would be anti-dilutive	179	212	289

24. Share-Based Payments

At December 31, 2022, the Company had one equity compensation plan (the “Plan”), which is shareholder approved, that provides for the granting of share options, share units and shares to eligible employees and directors up to 3,050,000 shares.

Share Units: Restricted share units provide for an interest in Company common stock to the recipient, with such units held in escrow until certain conditions are met. Share units provide for vesting requirements that include time-based, performance-based, or market-based conditions. Recipients of restricted units do not pay any cash consideration to the Company for the units and the holders of the restricted units do not have voting rights. For share units issued under the equity incentive plan approved in 2018, the holder accrues dividends, which are paid out when the units vest and the shares are issued. The fair value of time-based and performance-based units is equal to the fair market value of the Company’s common stock on the grant date. The fair value of market-based units is estimated on the grant date using the Monte Carlo simulation model.

A summary of changes in the Company's nonvested RSUs and related information for the year ended December 31, 2022 is presented below:

	Units	Weighted Average Grant-Date Fair Value
Nonvested at December 31, 2020	111,901	\$ 32.85
Granted	86,713	\$ 47.11
Vested	(12,994)	\$ 33.48
Forfeited	(3,050)	\$ 33.71
Nonvested at December 31, 2021	182,570	\$ 40.05
Granted	136,928	\$ 35.80
Vested	(22,566)	\$ 39.04
Nonvested at December 31, 2022	296,932	\$ 38.16

Share Awards: Restricted share awards provide for the immediate issuance of shares of Company common stock to the recipient, with such shares held in escrow until certain conditions are met. Share awards provide for vesting requirements that include time-based, performance-based, or market-based conditions. Recipients of restricted shares do not pay any cash consideration to the Company for the shares and the holders of the restricted shares have voting rights. For share awards issued under the equity incentive plan approved in 2018, the holder accrues dividends, which are paid out when the shares vest. The fair value of time-based and performance-based share awards is equal to the fair market value of the Company's common stock on the grant date. The fair value of market-based share awards is estimated on the grant date using the Monte Carlo simulation model.

A summary of changes in the Company's nonvested RSAs and related information for the years ended December 31, 2022, 2021 and 2020 is presented below:

	Shares	Weighted Average Grant-Date Fair Value
Nonvested at January 1, 2020	889,017	\$ 36.96
Granted	299,007	\$ 33.64
Vested	(231,805)	\$ 35.01
Forfeited	(90,588)	\$ 36.50
Nonvested at December 31, 2020	865,631	\$ 36.38
Granted	257,298	\$ 44.83
Vested	(324,222)	\$ 37.57
Forfeited	(75,696)	\$ 36.76
Nonvested at December 31, 2021	723,011	\$ 38.57
Granted	262,571	\$ 35.32
Vested	(335,115)	\$ 38.58
Forfeited	(109,104)	\$ 33.39
Nonvested at December 31, 2022	541,363	\$ 37.89

As of December 31, 2022, there was \$14.5 million of total unrecognized compensation cost related to nonvested share-based compensation arrangements granted under the Plan. That cost is expected to be recognized over a weighted average period of 1.7 years. The total fair value, as measured on the date of vesting, of shares vested during the years ended December 31, 2022, 2021, and 2020 was \$13.8 million, \$12.6 million, and \$8.1 million, respectively.

The Company expenses awards of shares on a straight-line basis over the related vesting term of the award. For the years ended December 31, 2022, 2021 and 2020, the Company recognized pre-tax share-based compensation expense of \$16.2 million, \$14.9 million and \$10.7 million, respectively.

25. Income Tax

The components of income tax expense are as follows:

	Years Ended December 31,		
	2022	2021	2020
	<i>(in thousands)</i>		
Current expense:			
Federal	\$ 60,771	\$ 50,708	\$ 44,094
State	12,811	9,610	7,822
Total current tax expense	<u>\$ 73,582</u>	<u>\$ 60,318</u>	<u>\$ 51,916</u>
Deferred tax expense (benefit):			
Federal	\$ (5,156)	\$ (5,445)	\$ (12,078)
State	(957)	(1,184)	(1,690)
Total deferred tax benefit	<u>(6,113)</u>	<u>(6,629)</u>	<u>(13,768)</u>
Total	<u><u>\$ 67,469</u></u>	<u><u>\$ 53,689</u></u>	<u><u>\$ 38,148</u></u>

Significant components of the Company's deferred tax assets and liabilities are as follows:

	December 31,	
	2022	2021
	<i>(in thousands)</i>	
Deferred tax assets:		
ACL	\$ 40,054	\$ 39,378
Lease liability	14,088	15,973
Deferred compensation	13,619	14,887
Stock options and restricted stock	3,751	3,186
OREO	—	50
Nonaccrual interest	120	118
Unrealized loss on investment securities	164,697	—
Net operating losses and credit carryforwards	2,404	2,898
Other	3,134	1,824
Total deferred tax assets	<u>241,867</u>	<u>78,314</u>
Deferred tax liabilities:		
Asset purchase tax basis difference	(4,083)	(5,052)
Right of use asset	(12,792)	(14,510)
FHLB stock dividends	(810)	(810)
Deferred loan fees	(6,205)	(5,957)
Unrealized gain on investment securities	—	(7,254)
Unrealized gain on equity securities	(3,231)	(3,231)
Purchase accounting	(11,106)	(14,211)
Depreciation	(3,112)	(3,304)
Cash flow hedge	(2,767)	(5,280)
Other	(144)	(130)
Total deferred tax liabilities	<u>(44,250)</u>	<u>(59,739)</u>
Net deferred tax asset	<u><u>\$ 197,617</u></u>	<u><u>\$ 18,575</u></u>

A reconciliation of the Company's effective income tax rate with the federal statutory tax rate is as follows:

	Years Ended December 31,					
	2022		2021		2020	
	Amount	Percent	Amount	Percent	Amount	Percent
	<i>(dollars in thousands)</i>					
Income tax based on statutory rate	\$ 66,706	21 %	\$ 53,867	21 %	\$ 40,402	21 %
Increase (decrease) resulting from:						
Tax exempt instruments	(6,864)	(2)%	(6,306)	(2)%	(5,987)	(3)%
Bank owned life insurance	(1,806)	(1)%	(1,444)	(1)%	(1,348)	(1)%
State income tax, net of federal benefit	9,364	3 %	7,892	3 %	4,844	3 %
Other, net	69	— %	(320)	— %	237	— %
Income tax provision	<u>\$ 67,469</u>	<u>21 %</u>	<u>\$ 53,689</u>	<u>21 %</u>	<u>\$ 38,148</u>	<u>20 %</u>

As of December 31, 2022 and 2021, we had no unrecognized tax benefits. Our policy is to recognize interest and penalties on unrecognized tax benefits in "Provision for income taxes" in the Consolidated Statements of Income. There were no amounts related to interest and penalties recognized for the years ended December 31, 2022 and 2021. As a result of recent acquisitions, the Company has net operating loss carryforwards in the federal, Idaho and Oregon jurisdictions of \$9.9 million, \$5.4 million and \$25 thousand, respectively, which begin to expire in 2024.

The Company invests in limited partnerships that operate qualified affordable housing projects to receive tax benefits in the form of tax deductions from operating losses and tax credits. The Company accounts for the investments using the proportional amortization method; amortization of the investment in qualified affordable housing projects is recorded in the provision for income taxes together with tax credits and benefits received. As of December 31, 2022, 2021 and 2020, the Company recognized \$1.8 million, \$916 thousand, and \$622 thousand, respectively, of proportional amortization as a component of income tax expense and recognized \$2.0 million, \$1.2 million, and \$738 thousand, respectively, in affordable housing tax credits and other tax benefits during the years. The Company's low-income housing tax credit investments at December 31, 2022 and 2021 were approximately \$47.2 million and \$24.0 million, respectively, and are included in "Other Assets" on the Consolidated Balance Sheets. The Company's remaining capital commitments to these partnerships at December 31, 2022 and 2021 were approximately \$41.3 million and \$19.2 million, respectively, and are included in "Other Liabilities" on the Consolidated Balance Sheets.

On March 27, 2020, the CARES Act was enacted in response to the COVID-19 pandemic. The CARES Act, among other things, permits NOL carryovers and carrybacks to offset 100% of taxable income for taxable years beginning before 2021. In addition, the CARES Act allows NOLs incurred in 2018, 2019, and 2020 to be carried back to each of the five preceding taxable years to generate a refund of previously paid income taxes. The Company has evaluated the impact of the CARES Act and determined that none of the changes would result in a material income tax benefit to the Company.

On December 27, 2020, the Consolidated Appropriations Act, 2021 was signed into law and extends several provisions of the CARES Act. The Company has determined that neither this Act nor changes to income tax laws or regulations in other jurisdictions have a significant impact on our effective tax rate.

26. Regulatory Capital Requirements

The Company (on a consolidated basis) and its banking subsidiary are subject to various regulatory capital requirements administered by the federal banking agencies. Failure to meet minimum capital requirements can initiate certain mandatory and possibly additional discretionary actions by regulators that, if undertaken, could have a direct material effect on the Company and its banking subsidiary's financial statements. Under capital adequacy guidelines and the regulatory framework for prompt corrective action, the Company and its banking subsidiary must meet specific capital guidelines that involve quantitative measures of assets, liabilities, and certain off-balance sheet items as calculated under regulatory accounting practices. The capital amounts and classification are also subject to qualitative judgments by the regulators about components, risk weightings, and other factors. Prompt corrective action provisions are not applicable to bank holding companies.

The capital requirements, among other things (i) specify that Tier 1 capital consists of CET1, and “Additional Tier 1 capital” instruments meeting specified requirements, (ii) define CET1 narrowly by requiring that most deductions/adjustments to regulatory capital measures be made to CET1 and not to the other components of capital and (iii) expand the scope of the deductions/adjustments to capital as compared to existing regulations. Under the requirements that are now effective, the minimum capital ratios are (i) 4.5% CET1 to risk-weighted assets, (ii) 6% Tier 1 capital to risk-weighted assets, (iii) 8% total capital to risk-weighted assets and (iv) 4% Tier 1 capital to average total assets (Tier 1 leverage). The Company and the Bank have made the one-time election to opt-out of including accumulated other comprehensive income items in regulatory capital calculations.

The Capital Rules also require a capital conservation buffer designed to absorb losses during periods of economic stress. The capital conservation buffer is composed entirely of CET1, on top of these minimum risk-weighted asset ratios. In addition, the Capital Rules provide for a countercyclical capital buffer applicable only to certain covered institutions. We do not expect the countercyclical capital buffer to be applicable to us or the Bank. Banking institutions with a ratio of CET1 to risk-weighted assets above the minimum but below the capital conservation buffer (or below the combined capital conservation buffer and countercyclical capital buffer, when the latter is applied) will face constraints on dividends, equity repurchases and compensation based on the amount of the shortfall.

The capital conservation buffer is set at 2.5% of CET1, effectively resulting in minimum ratios of (i) 7% CET1 to risk-weighted assets, (ii) 8.5% Tier 1 capital to risk-weighted assets, and (iii) 10.5% total capital to risk-weighted assets. At December 31, 2022, the capital conservation buffer for the Company and the Bank was 5.98% and 5.97%, respectively. As of December 31, 2022, we and the Bank met all capital adequacy requirements under the Capital Rules.

FDIC regulations set forth the qualifications necessary for a bank to be classified as “well-capitalized,” primarily for assignment of FDIC insurance premium rates. To qualify as “well-capitalized,” banks must have a CET1 risk-adjusted capital ratio of 6.5%, a Tier I risk-adjusted capital ratio of at least 8%, a total risk-adjusted capital ratio of at least 10% and a leverage ratio of at least 5%. Failure to qualify as “well-capitalized” can negatively impact a bank’s ability to expand and to engage in certain activities.

As of December 31, 2022, the most recent notification from the FDIC categorized Columbia Bank as well-capitalized under the regulatory framework for prompt corrective action. To be categorized as well-capitalized, an institution must maintain minimum CET1 risk-based, Tier 1 risk-based, total risk-based and Tier 1 leverage ratios as set forth in the following table. There are no conditions or events since the notification that management believes have changed Columbia Bank’s category.

The Company and its banking subsidiary's actual capital amounts and ratios as of December 31, 2022 and 2021 are presented in the following table:

	Actual		Minimum Required For Capital Adequacy Purposes		Minimum Required Plus Capital Conservation Buffer		To Be Well Capitalized Under Prompt Corrective Action Provision	
	Amount	Ratio	Amount	Ratio	Amount	Ratio	Amount	Ratio
<i>(dollars in thousands)</i>								
December 31, 2022								
CET1 Capital (to risk-weighted assets):								
The Company	\$ 1,885,860	12.87 %	\$ 659,248	4.50 %	\$ 1,025,498	7.00 %	N/A	N/A
Columbia Bank	\$ 1,892,755	12.93 %	\$ 658,773	4.50 %	\$ 1,024,758	7.00 %	\$ 951,561	6.50 %
Tier 1 Capital (to risk-weighted assets):								
The Company	\$ 1,885,860	12.87 %	\$ 878,998	6.00 %	\$ 1,245,247	8.50 %	N/A	N/A
Columbia Bank	\$ 1,892,755	12.93 %	\$ 878,364	6.00 %	\$ 1,244,349	8.50 %	\$ 1,171,152	8.00 %
Total Capital (to risk-weighted assets):								
The Company	\$ 2,048,700	13.98 %	\$ 1,171,997	8.00 %	\$ 1,538,246	10.50 %	N/A	N/A
Columbia Bank	\$ 2,045,595	13.97 %	\$ 1,171,152	8.00 %	\$ 1,537,137	10.50 %	\$ 1,463,940	10.00 %
Tier 1 Capital Leverage (to average assets):								
The Company	\$ 1,885,860	9.34 %	\$ 807,791	4.00 %	\$ 807,791	4.00 %	N/A	N/A
Columbia Bank	\$ 1,892,755	9.47 %	\$ 799,485	4.00 %	\$ 799,485	4.00 %	\$ 999,356	5.00 %
December 31, 2021								
CET1 Capital (to risk-weighted assets):								
The Company	\$ 1,710,981	13.01 %	\$ 591,585	4.50 %	\$ 920,244	7.00 %	N/A	N/A
Columbia Bank	\$ 1,716,186	13.06 %	\$ 591,154	4.50 %	\$ 919,754	7.00 %	\$ 853,890	6.50 %
Tier 1 Capital (to risk-weighted assets):								
The Company	\$ 1,710,981	13.01 %	\$ 788,780	6.00 %	\$ 1,117,439	8.50 %	N/A	N/A
Columbia Bank	\$ 1,716,186	13.06 %	\$ 788,206	6.00 %	\$ 1,116,625	8.50 %	\$ 1,050,941	8.00 %
Total Capital (to risk-weighted assets):								
The Company	\$ 1,868,192	14.21 %	\$ 1,051,707	8.00 %	\$ 1,380,366	10.50 %	N/A	N/A
Columbia Bank	\$ 1,863,397	14.18 %	\$ 1,050,941	8.00 %	\$ 1,379,360	10.50 %	\$ 1,313,677	10.00 %
Tier 1 Capital Leverage (to average assets):								
The Company	\$ 1,710,981	8.55 %	\$ 800,615	4.00 %	\$ 800,615	4.00 %	N/A	N/A
Columbia Bank	\$ 1,716,186	8.60 %	\$ 798,206	4.00 %	\$ 798,206	4.00 %	\$ 997,757	5.00 %

27. Parent Company Financial Information
Condensed Balance Sheets—Parent Company Only

	December 31,	
	2022	2021
	<i>(in thousands)</i>	
Assets		
Cash	\$ 8,514	\$ 1,979
Interest-earning deposits	—	3,786
Total cash and cash equivalents	8,514	5,765
Investment in banking subsidiary	2,215,486	2,589,218
Investment in other subsidiaries	7,942	7,175
Goodwill	4,729	4,729
Other assets	3,169	2,525
Total assets	<u>\$ 2,239,840</u>	<u>\$ 2,609,412</u>
Liabilities and Shareholders' Equity		
Subordinated debentures	\$ 10,000	\$ 10,000
Junior subordinated debentures	10,310	10,310
Other liabilities	6,377	360
Total liabilities	26,687	20,670
Shareholders' equity	2,213,153	2,588,742
Total liabilities and shareholders' equity	<u>\$ 2,239,840</u>	<u>\$ 2,609,412</u>

Condensed Statements of Income—Parent Company Only

	Years Ended December 31,		
	2022	2021	2020
	<i>(in thousands)</i>		
Income			
Dividend from banking subsidiary	\$ 85,004	\$ 108,000	\$ 89,000
Dividend from other subsidiaries	711	500	—
Interest-earning deposits	15	16	13
Other income	60	36	37
Total income	<u>85,790</u>	<u>108,552</u>	<u>89,050</u>
Expense			
Compensation and employee benefits	823	856	758
Subordinated debentures interest expense	807	1,932	1,871
Other borrowings interest expense	339	52	12
Other expense	8,524	3,542	1,943
Total expenses	<u>10,493</u>	<u>6,382</u>	<u>4,584</u>
Income before income tax benefit and equity in undistributed earnings of subsidiaries	75,297	102,170	84,466
Income tax benefit	(2,188)	(1,329)	(952)
Income before equity in undistributed earnings of subsidiaries	77,485	103,499	85,418
Equity in undistributed earnings of subsidiaries	172,693	99,321	68,826
Net income	<u>\$ 250,178</u>	<u>\$ 202,820</u>	<u>\$ 154,244</u>

Condensed Statements of Cash Flows—Parent Company Only

	Years Ended December 31,		
	2022	2021	2020
	<i>(in thousands)</i>		
Operating Activities			
Net income	\$ 250,178	\$ 202,820	\$ 154,244
Adjustments to reconcile net income to net cash provided by operating activities:			
Equity in undistributed earnings of subsidiaries	(172,693)	(99,321)	(68,826)
Stock-based compensation expense	16,158	14,926	10,737
Net changes in other assets and liabilities	5,379	(1,436)	(17)
Net cash provided by operating activities	99,022	116,989	96,138
Investing Activities			
Net cash received in business combinations	—	2,173	—
Net cash provided by investing activities	—	2,173	—
Financing Activities			
Common stock dividends	(94,394)	(83,841)	(96,215)
Repayment of subordinated debentures	—	(35,000)	—
Purchase and retirement of common stock	(3,989)	(4,140)	(2,522)
Purchase of treasury shares	—	—	(20,000)
Proceeds from exercise of stock options	2,110	2,350	2,028
Net cash used in financing activities	(96,273)	(120,631)	(116,709)
Increase (decrease) in cash and cash equivalents	2,749	(1,469)	(20,571)
Cash and cash equivalents at beginning of year	5,765	7,234	27,805
Cash and cash equivalents at end of year	\$ 8,514	\$ 5,765	\$ 7,234
Supplemental disclosure of noncash investing and financing activities:			
Common stock issued in connection with acquisition	\$ —	\$ 256,061	\$ —

28. Revenue from Contracts with Customers

The following table shows the disaggregation of revenue from contracts with customers for the period indicated:

	Years Ended December 31,		
	2022	2021	2020
	<i>(in thousands)</i>		
Noninterest income:			
Revenue from contracts with customers:			
Deposit account and treasury management fees	\$ 31,498	\$ 27,107	\$ 27,019
Card revenue	20,186	18,503	13,928
Financial services and trust revenue	17,659	15,753	12,830
Total revenue from contracts with customers	69,343	61,363	53,777
Other sources of noninterest income	29,801	32,731	50,723
Total noninterest income	\$ 99,144	\$ 94,094	\$ 104,500

For additional information, see [Note 1. “Summary of Significant Accounting Policies.”](#)

29. Subsequent Events

On January 9, 2023, we announced that Columbia, Umpqua, and Cascade Merger Sub, Inc. (“Merger Sub”) entered into Amendment No. 1 (the “Amendment”) to the Agreement and Plan of Merger, dated as of October 11, 2021 (as amended, the “Merger Agreement”) extending the Termination Date (as defined in the Merger Agreement) to March 11, 2023. We also announced that the application of Umpqua Bank with respect to the merger of Columbia State Bank with and into Umpqua Bank (the “Bank Merger”) had been approved by the FDIC. The deal is expected to close after close of business on February 28, 2023.

In January 2023, Columbia completed the divestiture of 3 branches and certain related assets and deposit liabilities to First Northern Bank of Dixon, a wholly-owned subsidiary of First Northern Community Bancorp, to satisfy regulatory requirements in connection with Columbia’s merger with Umpqua. Total deposits and loans that were divested upon closing were \$116.1 million and \$3.8 million, respectively. Columbia recorded a gain of \$3.7 million related to the completion of this divestiture.

Columbia is required to complete an additional divestiture of 7 branches and certain related assets and deposit liabilities in certain of its Washington and Oregon markets to satisfy regulatory requirements in connection with its merger with Umpqua. The Company has an agreement to sell these branches to 1st Security Bank of Washington, a wholly-owned subsidiary of FS Bancorp, Inc. This divestiture is expected to be completed following the close of business on February 24, 2023.

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

None.

ITEM 9A. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

An evaluation was carried out under the supervision and with the participation of the Company's management, including the CEO and CFO, of the effectiveness of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) of the Securities Exchange Act of 1934). Based on that evaluation, the CEO and CFO have concluded that as of the end of the period covered by this report, our disclosure controls and procedures are effective in ensuring that the information required to be disclosed by us in the reports we file or submit under the Securities Exchange Act of 1934 is (i) accumulated and communicated to our management (including the CEO and CFO) to allow timely decisions regarding required disclosure, and (ii) recorded, processed, summarized and reported within the time periods specified in the Security Exchange Commission's rules and forms.

Internal Control Over Financial Reporting

Management's Annual Report On Internal Control Over Financial Reporting

The Company's management is responsible for establishing and maintaining adequate internal control over financial reporting. The internal control system has been designed to provide reasonable assurance to the Company's management and board of directors regarding the preparation and fair presentation of the Company's published financial statements. Internal control over financial reporting includes maintaining records that in reasonable detail accurately and fairly reflect the Company's transactions; providing reasonable assurance that transactions are recorded as necessary for preparation of the Company's financial statements; providing reasonable assurance that receipts and expenditures are made in accordance with management authorization; and providing reasonable assurance that unauthorized acquisition, use or disposition of company assets that could have a material effect on the Company's financial statements would be prevented or detected on a timely basis. Because of its inherent limitations, internal control over financial reporting is not intended to provide absolute assurance that a misstatement of the Company's financial statements would be prevented or detected.

The Company's management assessed the effectiveness of the Company's internal control over financial reporting as of December 31, 2022. In making this assessment, it used the criteria set forth by the COSO in Internal Control-Integrated Framework (2013).

Based on such evaluation, management has concluded that the Company's internal control over financial reporting is effective as of December 31, 2022. There were no changes in our internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) of the Exchange Act) during our most recently completed fiscal quarter that materially affected or are reasonably likely to materially affect internal control over financial reporting.

Our independent registered public accounting firm has issued an attestation report on our internal control over financial reporting, which appears in this annual report on Form 10-K.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Shareholders and the Board of Directors of Columbia Banking System, Inc.

Opinion on Internal Control over Financial Reporting

We have audited the internal control over financial reporting of Columbia Banking System, Inc. and its subsidiaries (the “Company”) as of December 31, 2022, based on criteria established in *Internal Control — Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). Because management's assessment and our audit were conducted to meet the reporting requirements of Section 112 of the Federal Deposit Insurance Corporation Improvement Act (FDICIA), management's assessment and our audit of the Company's internal control over financial reporting included controls over the preparation of the schedules equivalent to the basic financial statements in accordance with the instructions for the Federal Financial Institutions Examination Council Instructions for Consolidated Reports of Condition and Income for Schedules RC, RI, and RI-A. In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2022, based on criteria established in *Internal Control — Integrated Framework (2013)* issued by COSO.

We have not examined and, accordingly, we do not express an opinion or any other form of assurance on management's statement referring to compliance with laws and regulations.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated financial statements as of and for the year ended December 31, 2022, of the Company and our report dated February 24, 2023, expressed an unqualified opinion on those financial statements.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Annual Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control over Financial Reporting

A company's internal control over financial reporting is a process designed 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. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ Deloitte & Touche LLP
Seattle, Washington
February 24, 2023

ITEM 9B. OTHER INFORMATION

None.

PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

Information regarding “Directors, Executive Officers and Corporate Governance” will be set forth in the Company’s 2023 Annual Proxy Statement (the “Proxy Statement”), which will be filed with the SEC within 120 days of the end of our 2022 fiscal year and is incorporated herein by reference.

ITEM 11. EXECUTIVE COMPENSATION

Information regarding “Executive Compensation” will be set forth in the Proxy Statement and is incorporated herein by reference.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

Information regarding “Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters” will be set forth in the Proxy Statement and is incorporated herein by reference. Information relating to securities authorized for issuance under the Company’s equity compensation plans is included in Part II of this Annual Report on Form 10-K under “Item 5. Market for Registrant’s Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities.”

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

Information regarding “Certain Relationships and Related Transactions, and Director Independence” will be set forth in the Proxy Statement and is incorporated herein by reference.

ITEM 14. PRINCIPAL ACCOUNTING FEES AND SERVICES

Information regarding “Principal Accounting Fees and Services” billed to us by our principal accountant, Deloitte & Touche LLP (PCAOB ID No. 34), will be set forth in the Proxy Statement and is incorporated herein by reference.

PART IV

ITEM 15. EXHIBITS, FINANCIAL STATEMENT SCHEDULES

(a)(1) Financial Statements:

The Consolidated Financial Statements and related documents set forth in “Item 8. Financial Statements and Supplementary Data” of this report are filed as part of this report.

(2) Financial Statements Schedules:

All other schedules to the Consolidated Financial Statements required by Regulation S-X are omitted because they are not applicable, not material or because the information is included in the Consolidated Financial Statements and related notes in “Item 8. Financial Statements and Supplementary Data” of this report.

(3) Exhibits:

The response to this portion of Item 15 is submitted as a separate section of this report appearing immediately following the signature page and entitled “Index to Exhibits.”

ITEM 16. FORM 10-K SUMMARY

None.

INDEX TO EXHIBITS

Exhibit No.	Exhibit
2.1	Agreement and Plan of Merger, dated as of June 23, 2021, by and between Columbia Banking System, Inc. and Bank of Commerce Holdings (1)
2.2*	Agreement and Plan of Merger, dated as of October 11, 2021, by and among Umpqua Holdings Corporation, Columbia Banking System, Inc., and Cascade Merger Sub, Inc.(2)
2.3	Amendment No. 1 to the Merger Agreement, dated as of January 9, 2023, by and among Umpqua Holdings Corporation, Columbia Banking System, Inc., and Cascade Merger Sub, Inc. (3)
3.1	Amended and Restated Articles of Incorporation (4)
3.2	Articles of Amendment of the Amended and Restated Articles of Incorporation (5)
3.3	Articles of Amendment of the Amended and Restated Articles of Incorporation (6)
3.4	Articles of Amendment of the Amended and Restated Articles of Incorporation (7)
3.5	Amended and Restated Bylaws (8)
4.1	Specimen of common stock certificate (9)
4.2	Pursuant to Item 601(b) (4) (iii) (A) of Regulation S-K, copies of instruments defining the rights of holders of long-term debt and preferred securities are not filed. The Company agrees to furnish a copy thereof to the Securities and Exchange Commission upon request.
4.3	Description of Capital Stock (10)
10.1**+	2018 Equity Incentive Plan (as amended through May 22, 2019)
10.2**+	Form of Restricted Stock Agreement
10.3**+	Form of Restricted Stock Unit Agreement
10.4**+	Form of Performance Stock Unit Agreement
10.5**	Change in Control Agreement between the Bank and Clint E. Stein dated as of October 24, 2017 (14)
10.6**	Change in Control Agreement between the Bank and Andrew L. McDonald dated as of May 23, 2019 (15)
10.7**	Change in Control Agreement between the Bank and Kumi Yamamoto Baruffi dated as of December 2, 2019 (16)
10.8**	Change in Control Agreement between the Bank and Christopher Merrywell dated as of January 1, 2020 (17)
10.9**	Change in Control Agreement between the Bank and David Moore Devine dated as of March 2, 2020 (17)
10.10**	Change in Control Agreement between the Bank and Eric Eid dated as of March 2, 2020 (17)
10.11**	Change in Control Agreement between the Bank and Aaron Deer dated as of May 7, 2020 (18)
10.12**	Change in Control Agreement between the Bank and David Lawson dated as of November 25, 2020 (28)
10.13**	Change in Control Agreement between the Bank and Lisa Dow dated as of November 25, 2020 (28)
10.14**	Form of Long-Term Care Agreement between the Bank, the Company, and each of the following directors: Mr. Folsom, Mr. Hulbert, Mr. Matson, Mr. Rodman, Mr. Weyerhaeuser and Mr. Will (19)

INDEX TO EXHIBITS, CONTINUED

Exhibit No.	Exhibit
10.15**	Form of Supplemental Compensation Agreement between the Bank and Mssrs. Andrew L. McDonald and Clint E. Stein, respectively (11)
10.16**	Form of Indemnification Agreement between the Company and its directors (20)
10.17**	Amended and Restated Columbia Banking System, Inc. 2005 401 Plus Plan (Deferred Compensation Plan), dated October 26, 2016 for directors and key employees (21)
10.18**+	Amendment to Amended and Restated Columbia Banking System, Inc. 2005 401 Plus Plan (Deferred Compensation plan), dated November 14, 2022
10.19**	Columbia Banking System, Inc. 2016 401 Plus Plan (Deferred Compensation Plan), dated October 26, 2016 for directors and key employees (21)
10.20**+	Amendment to Columbia Banking System, Inc. 2016 401 Plus Plan (Deferred Compensation Plan), dated November 14, 2022
10.21**	Columbia State Bank Supplemental Executive Retirement Plan Agreement, by and between the Bank and Kumi Baruffi, effective February 27, 2015 (22)
10.22**	First Amendment to the Columbia State Bank Supplemental Executive Retirement Plan Agreement, by and between the Bank and Kumi Baruffi, effective November 15, 2017 (23)
10.23**	First Amended and Restated Columbia State Bank Supplemental Executive Retirement Plan Agreement, by and between the Bank and David C. Lawson, effective February 27, 2015 (22)
10.24**	First Amendment to the First Amended and Restated Columbia State Bank Supplemental Executive Retirement Plan Agreement, by and between the Bank and David Lawson, effective November 15, 2017 (23)
10.25**	First Amended and Restated Columbia State Bank Supplemental Executive Retirement Plan Agreement, by and between the Bank and Andrew L. McDonald, effective February 27, 2015 (22)
10.26**	First Amendment to the First Amended and Restated Columbia State Bank Supplemental Executive Retirement Plan Agreement, by and between the Bank and Andrew L. McDonald, effective November 15, 2017 (23)
10.27**	First Amended and Restated Columbia State Bank Supplemental Executive Retirement Plan Agreement, by and between the Bank and Clint E. Stein, effective February 27, 2015 (22)
10.28**	First Amendment to the First Amended and Restated Columbia State Bank Supplemental Executive Retirement Plan Agreement, by and between the Bank and Clinton E. Stein, effective November 15, 2017 (23)
10.29**	Employment Offer (Lisa Dow), dated January 3, 2018 (12)
10.30**	Offer Letter, dated April 6, 2020 by and between Columbia State Bank and Aaron Deer (24)
10.31**	Employment Agreement, dated as of September 30, 2019, by and between Columbia Banking System, Inc. and Clint E. Stein (25)
10.32**+	Amended and Restated Employment Agreement, dated as of October 11, 2021, by and between Columbia Banking System, Inc. and Clint E. Stein
10.33**+	First Amendment to the Employment Agreement and the A&R Employment Agreement, dated as of December 31, 2022, by and between Columbia Banking System, Inc. and Clint E. Stein
10.34**	Amended and Restated Employee Stock Purchase Plan (26)
10.35**	First Amendment to Amended and Restated Employee Stock Purchase Plan (27)

INDEX TO EXHIBITS, CONTINUED

Exhibit No.	Exhibit
10.36**	Amended and Restated Executive Supplemental Income Agreement, by and between the Company and Lisa Dow, dated December 26, 2018 (13)
10.37**	Columbia State Bank Supplemental Executive Retirement Plan Agreement, by and between the Bank and Lisa Dow, effective March 11, 2018 (14)
10.38**	Columbia State Bank Endorsement Method Split Dollar Agreement (SERP Benefit), by and between the Bank and Lisa Dow, effective February 25, 2019 (14)
10.39**	First Amendment to the Columbia State Bank Endorsement Method Split Dollar Agreement (SERP Benefit), by and between the Bank and Lisa Dow, effective February 25, 2019 (14)
10.40**	Second Amendment to the Columbia State Bank Endorsement Method Split Dollar Agreement, by and between the Bank and David C. Lawson, effective May 31, 2019 (15)
10.41**	Second Amendment to the Columbia State Bank Endorsement Method Split Dollar Agreement, by and between the Bank and Kumi Baruffi, effective May 31, 2019 (15)
10.42**	Third Amendment to the Columbia State Bank Endorsement Method Split Dollar Agreement, by and between the Bank and Clinton E. Stein, effective May 31, 2019 (15)
10.43**	Columbia State Bank Endorsement Method Split Dollar Agreement, effective January 15, 2013, by and between Columbia State Bank and Christopher Merrywell (28)
10.44**	First Amendment to the Columbia State Bank Endorsement Method Split Dollar Agreement, dated November 23, 2020, by and between Columbia State Bank and Christopher Merrywell (28)
10.45**	Columbia State Bank Endorsement Method Split Dollar Agreement, dated November 25, 2020 by and between Columbia State Bank and Aaron Deer (28)
10.46**	Executive Supplemental Compensation Agreement dated as of February 23, 2011 between Columbia State Bank and Eric J. Eid (28)
10.47**	Columbia State Bank Joint Beneficiary Agreement, by and between Columbia State Bank and David Devine, effective November 1, 2011 (28)
10.48**	Columbia State Bank Joint Beneficiary Agreement, by and between Columbia State Bank and Eric Eid, effective November 1, 2011 (28)
10.49**	Executive Supplemental Compensation Agreement dated as of February 27, 2014 between Columbia State Bank and Eric J. Eid (28)
10.50**	Executive Supplemental Compensation Agreement dated as of March 25, 2015 between Columbia State Bank and Christopher M. Merrywell (28)
10.51**	Executive Supplemental Compensation Agreement dated as of February 1, 2018 between Columbia State Bank and Christopher Merrywell (28)
10.52**	Executive Supplemental Compensation Agreement dated as of March 11, 2019 between Columbia State Bank and David Moore Devine (28)
21+	Subsidiaries of the Company
23+	Consent of Deloitte & Touche LLP
24+	Power of Attorney
31.1+	Certification of Chief Executive Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002

INDEX TO EXHIBITS, CONTINUED

Exhibit No.	Exhibit
31.2+	Certification of Chief Financial Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
32+	Certification Filed Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
101+	The following financial information from Columbia Banking System, Inc.'s Annual Report on Form 10-K for the year ended December 31, 2022 is formatted in XBRL: (i) Audited Consolidated Balance Sheets, (ii) Audited Consolidated Statements of Income, (iii) Audited Consolidated Statements of Comprehensive Income, (iv) Audited Consolidated Statements of Changes in Shareholders' Equity, (v) Audited Consolidated Statements of Cash Flows, and (vi) Notes to Audited Consolidated Financial Statements.
104+	Cover Page Interactive Data File (the cover page XBRL tags are embedded within the Inline XBRL document).

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- (1) Incorporated by reference to Exhibit 2.1 of the Company's Current Report on Form 8-K filed June 23, 2021
 - (2) Incorporated by reference to Exhibit 2.1 of the Company's Current Report on Form 8-K file October 15, 2021
 - (3) Incorporated by reference to Exhibit 2.1 of the Company's Current Report on Form 8-K filed January 10, 2023
 - (4) Incorporated by reference to Exhibit 3.1 of the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2005
 - (5) Incorporated by reference to Exhibit 3.1 of the Company's Current Report on Form 8-K filed November 21, 2008
 - (6) Incorporated by reference to Exhibit 3.1 of the Company's Current Report on Form 8-K filed April 2, 2013
 - (7) Incorporated by reference to Exhibit 4.4 of the Company's S-3 Registration Statement (File No. 333-206125) filed August 6, 2015
 - (8) Incorporated by reference to Exhibit 3.2 of the Company's Current Report on Form 8-K filed on February 2, 2010
 - (9) Incorporated by reference to Exhibit 4.3 of the Company's S-3 Registration Statement (File No. 333-156350) filed December 19, 2008
 - (10) Incorporated by reference to Exhibit 4.3 of the Company's Annual Report on Form 10-K for the year ended December 31, 2019
 - (11) Incorporated by reference to Exhibit 10.16 of the Company's Annual Report on Form 10-K for the year ended December 31, 2007
 - (12) Incorporated by reference to Exhibit 10.4 of the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2018
 - (13) Incorporated by reference to Exhibit 10.62 of the Company's Annual Report on Form 10-K for the year ended December 31, 2018
 - (14) Incorporated by reference to Exhibits 10.1-10.4 of the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2019
 - (15) Incorporated by reference to Exhibits 10.1-10.4 of the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2019
 - (16) Incorporated by reference to Exhibit 10.72 of the Company's Annual Report on Form 10-K for the year ended December 31, 2019
 - (17) Incorporated by reference to Exhibits 10.1-10.3 of the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2020
 - (18) Incorporated by reference to Exhibits 10.1 of the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2020
 - (19) Incorporated by reference to Exhibit 10.3 of the Company's Quarterly Report on Form 10-Q for the quarter ended September 30, 2001
 - (20) Incorporated by reference to Exhibit 10.4 of the Company's Quarterly Report on Form 10-Q for the quarter ended September 30, 2009
 - (21) Incorporated by reference to Exhibits 10.1 and 10.2 of the Company's Current Report on Form 8-K filed October 28, 2016
 - (22) Incorporated by reference to Exhibits 10.3-10.5 and 10.8 of the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2015
 - (23) Incorporated by reference to Exhibits 10.47-10.49 and 10.51 of the Company's Annual Report on Form 10-K for the year ended December 31, 2017
 - (24) Incorporated by reference to Exhibit 10.1 of the Company's Current Report on Form 8-K filed on April 13, 2020
 - (25) Incorporated by reference to Exhibit 10.1 of the Company's Current Report on Form 8-K filed on October 3, 2019
 - (26) Incorporated by reference to Exhibit 10.7 of the Company's Annual Report on Form 10-K for the year ended December 31, 2010
 - (27) Incorporated by reference to Exhibit 10.4 of the Company's Quarterly Report on Form 10-Q for the quarter ended September 30, 2018
 - (28) Incorporated by reference to Exhibit 10.21, 10.22, & 10.58-10.67 of the Company's Annual Report on Form 10-K for the year ended December 31, 2020

* The schedules to this agreement have been omitted in accordance with Item 601(b)(2) of Regulation S-K. A copy of any omitted schedule or exhibit will be furnished supplementally to the SEC upon request; provided, however, that the registrant may request confidential treatment of omitted items.

** Management contract or compensatory plan or arrangement

+ Filed herewith

**2018 EQUITY INCENTIVE PLAN OF
COLUMBIA BANKING SYSTEM, INC.
(as amended through May 22, 2019)**

1. Purpose of the Plan

The purpose of the Plan is to attract and retain the most talented employees and directors available to serve in positions of responsibility with Columbia Banking System, Inc. and its subsidiaries, to provide them with both rewards for exceptional performance and long-term incentives for future so contributions to it and its subsidiaries, and to align their interests with those of its shareholders that they will exert maximum efforts to promote its growth and success for the ultimate benefit of all its shareholders.

The Plan replaces the 2014 Stock Option and Equity Compensation Plan, which was approved by the Company's stockholders at the 2014 Annual Stockholder Meeting and effective on April 23, 2014, (the "Prior Plan"), for awards granted on or after the date the Plan is approved by the Company's stockholders (the "Effective Date"). Awards may not be granted under the Prior Plan beginning on the Effective Date, but the Plan will not affect the terms and conditions of any equity award grants under the Prior Plan (or any predecessor plans) granted prior to the Effective Date. Awards granted prior to the Effective Date shall be governed by the terms applicable to such awards and as in effect prior to the Effective Date. The terms of the Plan are not intended to affect the interpretation of the terms of the Prior Plan for Awards granted prior to the Effective Date. In the event that the Plan is not approved by the Company's stockholders, the Plan shall be null and void and of no force or effect, but the Prior Plan and the Awards granted thereunder (or under any predecessor plan) on or prior to the Effective Date shall remain in full force and effect.

2. Definitions

As used herein, the following definitions shall apply:

- a. "Award" means a grant of an Option, Restricted Stock, Restricted Stock Unit (which may or may not include a Dividend Equivalent), Stock Appreciation Right or Cash Award under the Plan.
 - b. "Award Agreement" means a written agreement entered into by and between a Grantee and the Company setting forth terms and conditions relating to an Award granted to such Grantee. The agreement shall take such form, and contain such terms and conditions, as shall be determined from time to time by the Committee in its sole discretion.
 - c. "Cash Award" means an Award granted as described in Section 7 herein.
 - d. "Board" means the board of directors of the Company.
 - e. "Cause" means (i) with respect to a Grantee employed pursuant to a written employment, change in control or similar agreement that includes a definition of "Cause," "Cause" as defined in that agreement or (ii) with respect to any other Grantee, any of the following: (A) dishonesty in performing one's duties to the Company or a Subsidiary, (B) willful misconduct, or a willful failure to act, with the intent of injuring, or having the effect of injuring, the reputation, business or business relationships of the Company or a Subsidiary, or any of their officers, directors or employees; (C) conviction of a felony or of any crime involving fraud, dishonesty or moral turpitude or that reflects unfavorably on the Company or a Subsidiary; (D) willful or prolonged absence from work or failure for any reason to perform duties as an Employee or Director, unless excused by the Company or a Subsidiary, whichever is the entity for which services are performed; (E) breach of any material terms of an employment or service agreement with the Company or a Subsidiary, including an Award Agreement; or (F) disqualification or bar by any governmental or self-regulatory authority from serving in the capacity required by his or her job description or loss of any governmental or self-regulatory license that is reasonably necessary for such Grantee to perform his or her duties or responsibilities.
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- f. “Change in Control” means the first to occur of the following events:
- (i) Any one person, or more than one person acting as a group, acquires (or has acquired during the 12-month period ending on the date of the most recent acquisition by such person or group) assets from the Company that have a total gross fair market value equal to or more than two-thirds (2/3) of the total gross fair market value of all of the assets of the Company immediately before such acquisitions or acquisitions;
 - (ii) One person, or more than one person acting as a group, acquires ownership of stock of the Company that, together with stock held by such person or group, constitutes more than two-thirds (2/3) of the total fair market value or total voting power of the stock of the Company; provided, however, that the event described in this paragraph (ii) will not be deemed to be a Change in Control by virtue of the ownership, or acquisition, of stock of the Company: (A) by the Company or its Subsidiaries, (B) by any employee benefit plan (or related trust) sponsored or maintained by the Company or its Subsidiaries, (C) by any underwriter temporarily holding securities pursuant to an offering of such securities or (D) pursuant to a Non-Qualifying Transaction as defined in paragraph (iv) of this definition;
 - (iii) The date a majority of members of the Company’s Directors is replaced during any 12-month period by persons whose appointment or election is not endorsed by a majority of the members of the Board before the date of the appointment or election; provided, however, that the appointment or election of any individual initially elected or nominated as a Director as a result of an actual or publicly threatened election contest with respect to Directors or as a result of any other actual or publicly threatened solicitation of proxies by or on behalf of any person other than the Board will be deemed to be not endorsed by the Board; or
 - (iv) The consummation of a merger, consolidation, reorganization or similar corporate transaction of the Company, unless, following such transaction, (A) the shareholders of the Company immediately prior to such transaction own directly or indirectly immediately following such transaction more than fifty percent (50%) of the combined voting power of the outstanding voting securities of the entity resulting from such transaction (or the ultimate parent entity that has beneficial ownership of at least 95% of the voting power of such resulting entity) (the “Surviving Entity”) in substantially the same proportion as their voting power immediately prior to the transaction; (B) no person (other than any employee benefit plan (or related trust) sponsored or maintained by the Surviving Entity) is or becomes the beneficial owner, directly or indirectly, of 50% or more of the total voting power of the outstanding voting securities of the Surviving Entity and (C) at least a majority of the Surviving Entity’s directors were the Company’s Directors at the time the Board approved such transaction (any transaction that satisfies all of the criteria specified in (A), (B) and (C) of this paragraph is a “Non-Qualifying Transaction”).
- g. “Code” means the Internal Revenue Code of 1986, as amended.
- h. “Common Stock” means the no par value common stock of the Company.
- i. “Committee” has the meaning given such term in Section 4.a.
- j. “Company” means Columbia Banking System, Inc., a Washington corporation.
- k. “Director” means a person elected or appointed as a member of the Board or the board of directors of a Subsidiary.

- l. “Disability” has the meaning given to such term in Code Section 22(e)(3).
- m. “Dividend Equivalent” means, with respect to Restricted Stock Units, an amount equal to the total dollar value of all dividends that would have been paid on the shares of Common Stock covered by the Award between the date of grant of the Restricted Stock Units and the date on which the Restricted Stock Units are settled if such shares of Common Stock had been delivered pursuant to such Award. A Restricted Stock Unit does not include a Dividend Equivalent unless the Award Agreement for the Restricted Stock Unit clearly specifies that it does. Further, a Grantee shall have no right to receive payment of a Dividend Equivalent unless and until the Restricted Stock Unit that includes it Vests and is settled as provided herein.
- n. “Employee” means a person employed by the Company or a Subsidiary.
- o. “Exchange Act” means the Securities Exchange Act of 1934, as amended.
- p. “Fair Market Value” means, as of any date, the value of Common Stock determined as follows:
 - (i) If the Common Stock is listed on any established stock exchange or a national market system, including without limitation The Nasdaq Stock Market, its Fair Market Value shall be the closing sales price for such stock (or the closing bid price, if no sales were reported) as quoted on such exchange or system for such date (or, if such pricing information is not published for such date, the last date prior to such date for which pricing information is published), as reported in The Wall Street Journal or such other source as the Committee deems reliable;
 - (ii) If the Common Stock is regularly quoted by recognized securities dealers but selling prices are not reported, its Fair Market Value shall be the mean of the closing bid and asked prices for such stock on such date, as reported in The Wall Street Journal or such other source as the Committee deems reliable; or
 - (iii) In the absence of an established market for the Common Stock, the Fair Market Value shall be determined in good faith by the Committee and by taking into account such criteria and information as is required to comply with Code Section 409A to the extent applicable.
- q. “Good Reason” means (i) with respect to a Grantee employed pursuant to a written employment, change in control or similar agreement that includes a definition of “Good Reason,” “Good Reason” as defined in that agreement or (ii) with respect to any other Grantee, the occurrence of any of the following in the absence of the Grantee’s written consent: (A) any material and adverse change in the Grantee’s position or authority with the Company as in effect immediately before a Change in Control, other than an isolated and insubstantial action not taken in bad faith and which is remedied by the Company within 30 days after receipt of notice thereof given by the Grantee; (B) the transfer of the Grantee’s primary work site to a new primary work site that is more than 50 miles from the Grantee’s primary work site in effect immediately before a Change in Control; or (C) a diminution of the Grantee’s base salary in effect immediately before a Change in Control by more than 10%, unless such diminution applies to all similarly situated employees. If the Grantee does not deliver to the Company a written notice of termination within 60 days after the Grantee has knowledge that an event constituting Good Reason has occurred, the event will no longer constitute Good Reason. In addition, the Grantee must give the Company 30 days to cure the event constituting Good Reason.
- r. “Grantee” means a person who has been granted an Award.
- s. “Incentive Stock Option” means an Option that qualifies as an “incentive stock option,” as that term is defined in Code Section 422.
- t. “Nonqualified Stock Option” means an Option, other than an Incentive Stock Option.

u. “Option” means a right granted under the Plan to purchase Common Stock. Options granted under this Plan may be either Incentive Stock Options or Nonqualified Stock Options, and the term means either or both, as the context requires. Each Award Agreement shall state whether an Option subject to the agreement is an Incentive Stock Option or a Nonqualified Stock Option.

v. “Plan” means this 2018 Equity Incentive Plan of Columbia Banking System, Inc., as amended from time to time.

w. “Restricted Stock” means a share of Common Stock, issued under the Plan that is subject to such restrictions and conditions as are set forth in the Plan and the related Award Agreement.

x. “Restricted Stock Unit” means a right granted under the Plan to receive a payment in cash or Common Stock, or a combination of both, as determined by the Committee, with a value equal to the sum of (i) the Fair Market Value, on the date of that the Restricted Stock Unit is settled, of one share of Common Stock per Restricted Stock Unit, and (ii) the Dividend Equivalent, if the Award Agreement for the Restricted Stock Unit clearly specifies that it includes a Dividend Equivalent. If the Committee determines to settle payment in Common Stock, then it may pay cash in lieu of fractional shares.

y. “SEC” means the U.S. Securities and Exchange Commission.

z. “Shareholder-Employee” means an Employee who owns, at the time an Incentive Stock Option is granted, stock representing more than ten percent (10%) of the total combined voting power of all classes of stock of the Company or a Subsidiary. For this purpose, the attribution of stock ownership rules of Code Section 424(d) shall apply.

aa. “Stock Appreciation Right” means a right granted under the Plan to receive a payment in cash or Common Stock, or a combination of both, as determined by the Committee, with a value equal to the excess of (i) the Fair Market Value, on the date of exercise of the right, of one share of Common Stock per Stock Appreciation Right, over (ii) the Fair Market Value, on the date of grant of the right, of such share of Common Stock. Such Fair Market Value shall not be increased or otherwise adjusted because of dividends or other distributions paid at any time on or with respect to shares of Common Stock. In addition, the following shall apply to Stock Appreciation Rights: (1) Amounts payable under the Stock Appreciation Right shall not be greater than the excess of the Fair Market Value of Common Stock (disregarding lapse restrictions as defined in Treasury Regulations §1.83-3(i)) on the date the Stock Appreciation Right is granted over the Fair Market Value of the Common Stock (disregarding lapse restrictions as defined in Treasury Regulations §1.83-3(i)) on the date the Stock Appreciation Right is exercised, with respect to the number of shares fixed on or before the date of grant of the Stock Appreciation Right; (2) the Stock Appreciation Right exercise price shall never be less than the Fair Market Value of the underlying stock (disregarding lapse restrictions as defined in Treasury Regulations § 1.83-3(i)) on the date the Stock Appreciation Right is granted; (3) the Stock Appreciation Right shall not include any feature for the deferral of compensation other than the deferral of recognition of income until the exercise of the Stock Appreciation Right, and (4) no Stock Appreciation Right shall be exercisable later than the 10th anniversary date of its grant.

bb. “Subsidiary” means, (i) in the case of an Incentive Stock Option, a corporation having a relationship with the Company described in Code Section 424(f), and (ii) in the case of any other type of Award, a corporation with which the Company is considered a single employer under Code Section 414(b).

cc. “Vest” means satisfaction in full of all conditions precedent, imposed by the Plan and the related Award Agreement, to a Grantee’s right to exercise an Option, to hold Restricted Stock free of any obligation to forfeit or retransfer the same to the Company or to receive payments under a Restricted Stock Unit, Stock Appreciation Right or Cash Award.

3. Stock Subject to Plan and Maximum Awards

a. **General.** Subject to the adjustments provided in Section 17, the number of shares of Common Stock that may be made subject to Awards of all types shall be Three Million, Fifty Thousand (3,050,000). The Company shall reserve such shares, to the extent that it deems appropriate from authorized but unissued shares of Common Stock and from shares of Common Stock that have been reacquired by it. Shares of Common Stock subject to Awards that are assumed, converted or substituted under the Plan as a result of the Company's acquisition of another company (including by way of merger, combination or similar transaction) will not count against the number of shares that may be granted under the Plan. Available shares under a stockholder approved plan of an acquired company (as appropriately adjusted to reflect the transaction) may be used for Awards under the Plan and do not reduce the maximum number of shares available for grant under the Plan, subject to applicable stock exchange requirements.

b. **Share Counting.** Shares of Common Stock that are made subject to an Award of Options, Restricted Stock, Restricted Stock Units (together with any Dividend Equivalent) or Stock Appreciation Rights that will or may be settled in stock shall be counted against the number of shares set forth in Section 3.a, unless and until the Grantee forfeits rights in the Award by failing to satisfy any condition to Vesting; and shares of Common Stock that are made subject to an Award of Restricted Stock Units (together with any Dividend Equivalent) shall not count against such number if, in either case, they are settled in cash. Any shares of Common Stock made subject to an Award shall again become available to be made subject to a new Award if the shares are not issued because the Award is forfeited or cancelled, but shares of Common Stock shall not again become available under Section 3.a to be made subject to an Award in the case of shares that are (i) used to satisfy a withholding obligation of the Grantee, (ii) tendered to the Company to pay the exercise price or consideration required to be paid with respect to an Award, and (iii) subject to a Stock Appreciation Right, to the extent the Stock Appreciation Right is exercised.

c. **Maximum Awards.** The maximum number of shares of Common Stock subject to Incentive Stock Options granted to any one Grantee (other than a non-employee Director) in a calendar year is 100,000.

d. **Non-Employee Director Awards.**

- (1) For the 12-month period following the first Board meeting after each annual meeting of the Company's stockholders (beginning after the Company's 2019 annual meeting of stockholders) (each such 12-month period, the "**Annual Period**"), each non-employee Director shall receive for service on the Board (A) an annual cash retainer of \$47,000 and (B) an annual equity retainer of \$70,000, in each case increased by 5% per year beginning with the 2020-2021 Annual Period unless the Board determines in its discretion to defer and cumulate any increase (or portion).
- (2) For each Annual Period, the Board may establish a retainer for each non-employee Director chairing or serving on any standing committee of the Board as determined in the discretion of the Board and not exceeding (A) \$15,000 for each committee chaired plus (B) \$8,000 for each committee on which the non-employee Director serves, in each case increased by 5% per year beginning with the 2020-2021 Annual Period unless the Board determines in its discretion to defer and cumulate any increase (or portion).
- (3) The Board may at any time provide any Director with a retainer or other fee for service in addition to that provided for in this Section 3.d., including for service as Chair of the Board, on a specific purpose committee or to any Subsidiary or for any other special service, in each case determined in the discretion of the Board.
- (4) Any retainer or fee pursuant to this Section 3.d. may be payable in the form of a Cash Award, Restricted Stock and/or Restricted Stock Unit Award, in such combination and on such terms and conditions as determined in the discretion of the Board. Unless the Board determines otherwise, (A) no fee or retainer shall be prorated for a partial year served except that a non-employee Director who joins the Board after the annual grant of Restricted Stock and/or Restricted Stock Unit Award to the Board for that year will receive a prorated Award for such year and any Award of Restricted Stock Units shall accrue Dividend Equivalents, which shall be paid in accordance with Section 6.a. of the Plan.

4. Administration of the Plan

a. **The Committee.** The power and authority to administer the Plan is vested in the Personnel and Compensation Committee of the Board and, with respect to Awards to non-employee Directors, the Corporate Governance and Nominating Committee of the Board (each such committee as the context requires is the "Committee"), each of which shall be selected by the Board and shall consist of at least two (2) Directors. Persons selected to the Committee shall satisfy applicable independence criteria of the stock exchange or quotation system on which the Common Stock may then be listed or quoted and be a "non-employee director" within the meaning of Rule 16b-3 promulgated under the Exchange Act. If the Committee does not exist or the Board, for any reason determined by it desires to directly administer the Plan, then the Board may take any action under the Plan that would otherwise be the responsibility of the Committee. Once appointed, the Committee shall continue to serve until otherwise directed by the Board.

b. **Delegation of Responsibilities.** Except to the extent prohibited by applicable law or the applicable rules of a stock exchange or quotation system, the Committee may delegate all or some of its power and authority to administer the Plan to one or more of its members, or to any other person or persons selected by it. The Committee may revoke such delegation at any time.

c. **Powers of the Committee.** Subject to the terms and conditions explicitly set forth in the Plan, the Committee shall have the authority and discretion to do the following:

- (1) determine the persons to whom Awards are to be granted, the times of grant, and the number of shares of Common Stock subject to each Award;
- (2) subject to the terms of this Plan, determine the exercise price for shares of Common Stock to be issued pursuant to the exercise of an Option; the purchase price, if any, of Restricted Stock; the Fair Market Value of Common Stock used to determine the amount required to be paid under a Restricted Stock Unit (if applicable) or Stock Appreciation Right; and whether a Restricted Stock Unit includes a Dividend Equivalent;
- (3) determine all other terms and conditions (which need not be identical between or among Grantees) of each Award;
- (4) modify or amend the terms of any Award previously granted, or grant substitute Options, subject to the provisions of Sections 15 and 20;
- (5) cancel or suspend Awards, subject to the provisions of Section 20;
- (6) interpret the Plan and Awards;
- (7) authorize any person or persons to execute and deliver Award Agreements, or to take any other actions deemed by the Committee to be necessary or appropriate, to effectuate the grant of Awards;
- (8) waive any conditions to Vesting; and
- (9) make all other determinations, and take all other actions that the Committee deems necessary or appropriate, to administer the Plan in accordance with its terms and conditions.

All decisions, determinations and interpretations of the Committee relating to the Plan and Awards shall be final and binding upon all persons, including all Grantees and any other persons interested in any Awards, unless otherwise expressly determined by a vote of a majority of the entire Board. No member of the Committee or the Board, or any person to whom the Committee delegates its powers, responsibilities or duties in writing (each, a "Covered Person") shall be liable to any person (including any Grantee) for any action taken or omitted to be taken with respect to the Plan or any Awards. Each Covered Person shall be indemnified and held harmless by the Company against and from:

- (x) any loss, cost, liability or expense (including attorneys' fees) that may be imposed upon or incurred by such Covered Person in connection with or resulting from any action, suit or proceeding to which such Covered Person may be a party or in which such Covered Person may be involved by reason of any action taken or omitted to be taken under the Plan or any Award Agreement, in each case, in good faith; and
- (y) any and all amounts paid by such Covered Person, with the Company's approval, in settlement thereof, or paid by such Covered Person in satisfaction of any judgment in any such action, suit or proceeding against such Covered Person, provided that the Company will have the right, at its own expense, to assume and defend any such action, suit or proceeding and, once the Company gives notice of its intent to assume the defense, the Company will have sole control over such defense with counsel of the Company's choice.

The foregoing right of indemnification will not be available to a Covered Person to the extent that a court of competent jurisdiction in a final judgment or other final adjudication, in either case, not subject to further appeal, determines that the acts or omissions of such Covered Person giving rise to the indemnification claim resulted from such Covered Person's bad faith, fraud or willful misconduct. The foregoing right of indemnification will not be exclusive of any other rights of indemnification or coverage to which Covered Persons may be entitled under the Company's articles of incorporation or bylaws or insurance policies, pursuant to any individual indemnification agreements between such Covered Person and the Company, as a matter of law, or otherwise, or any other power that the Company may have to indemnify such persons or hold them harmless.

d. **Section 16(b) Compliance and Bifurcation of Plan.** It is the intention of the Company that the Plan comply in all respects with Rule 16b-3 under the Exchange Act, and the Plan shall be construed in favor of its so complying. If any Plan provision is determined to not comply with such Rule 16b-3, the provision shall be deemed null and void. Notwithstanding any contrary provisions of the Plan, the Board, in its absolute discretion, may bifurcate the Plan so as to restrict, limit or condition the use of any provision of the Plan with respect to Grantees who are officers and directors subject to Section 16(b) of the Exchange Act, without so restricting, limiting, or conditioning the use of such provision of the Plan with respect to other Grantees.

5. Eligibility

All Employees and Directors are eligible to be selected to be granted an Award. Notwithstanding any contrary provisions of this Plan, a Director who is not also an Employee may not be selected to be granted an Incentive Stock Option.

6. Granting of Awards

a. **General.** Only Employees and Directors selected by the Committee, in its sole discretion, shall be granted Awards. An Award may consist solely of Incentive Stock Options, Nonqualified Stock Options, Restricted Stock, Restricted Stock Units (either including or not including a Dividend Equivalent), Stock Appreciation Rights, Cash Awards or any combination of the foregoing. All Awards are subject to the terms and conditions of the Plan. Notwithstanding any actions taken by the Company in connection with the grant of an Award to any person, such person shall have no rights to or under such Award prior to the time he first performs services as an Employee or Director. Any Restricted Stock Units that are granted with Dividend Equivalents shall accrue Dividend Equivalents at the time and at the same rate as dividends are paid on shares of Common Stock, which Dividend Equivalents shall

be retained by the Company and shall be paid to the Grantee (without interest) if and to the extent that the Restricted Stock Units vest and shall be forfeited if for any reason the Restricted Stock Units are forfeited. For the avoidance of doubt, no dividends or Dividend Equivalents shall be paid on unvested Awards.

b. **Award Agreement.** Each Award shall be evidenced by an Award Agreement that sets forth the terms and conditions of the Award. A person who is granted an Award shall have no rights under the Award unless and until such person duly executes and delivers to the Company an Award Agreement. An Award shall expire, and the Company shall have no further obligations with respect thereto, if the person does not so execute and deliver an Award Agreement within any period of time prescribed by the Company.

c. **Consideration.** The Committee shall determine the form and amount, if any, of consideration required to be paid by a Grantee with respect to an Award. Such consideration may take the form of cash, property, shares of Common Stock or services.

d. **Arrangements to Cancel Restricted Stock.** The Company may make such arrangements as it deems necessary or appropriate to hold shares of Restricted Stock in escrow until Grantee satisfies all conditions to Vesting and to automatically cancel such shares if Grantee fails to satisfy such conditions.

7. Cash Awards

a. **Grant of Cash Awards.** Subject to the terms of this Plan, Cash Awards (including, without limitation, retainers and meeting-based fees for Directors) may be granted to Grantees in such amounts, and upon such terms, at any time and from time to time, as shall be determined by the Committee.

b. **Value of Cash Awards.** Each Cash Award shall have a value as may be determined by the Committee.

c. **Earning of Cash Awards.** Each Cash Award shall be subject to such Vesting conditions (which may include performance goals) as determined by the Committee in its discretion.

d. **Form and Timing of Cash Awards.** Payment of earned Cash Awards shall be as determined by the Committee and as evidenced by the applicable Award Agreement, which shall in any event be no later than as may be required under Section 409A of the Code.

8. Vesting of Awards

a. The Committee may impose any terms and conditions on the Vesting of an Award that it determines to be appropriate, including requiring the Grantee to continue to provide services as an Employee or Director for a specified period of time or to meet performance goals established by the Committee. Such terms and conditions shall be set forth in an Award Agreement.

b. Unless otherwise provided in an Award, in the event of the death or Disability of a Grantee who at the time of his death or cessation of service due to Disability was an Employee or Director and who was an Employee or Director at all times since the date of grant of (i) a Restricted Stock Award, or (ii) a Restricted Stock Unit Award, then the target number of shares of Restricted Stock and/or Restricted Stock Units, as the case may be, shall Vest upon such death or cessation of services due to Disability.

9. Exercise and Settlement of Awards

a. **Options.** Grantee shall pay the full exercise price for shares of Common Stock purchased under an Option, at the time the Option is exercised, in cash or other consideration of comparable value deemed acceptable by the Committee (including by tendering, by either actual delivery of shares or by attestation, shares of Common Stock acceptable to the Committee and valued at Fair Market Value as of the date of exercise), or in any combination thereof, as determined by the Committee. The Committee may permit a Grantee to elect to pay the exercise price upon the exercise of an Option by irrevocably authorizing a third party to sell shares of Common

Stock (or a portion of the shares of Common Stock sufficient to pay the exercise price) acquired upon exercise of the Option and remit to the Company the sale proceeds therefrom sufficient to pay the entire exercise price and any tax withholding resulting from such exercise.

b. **Restricted Stock.** The Company shall take such actions as it determines to be reasonably necessary to release Restricted Stock from forfeiture restrictions as soon as practicable after the Restricted Stock Vests.

c. **Other Equity-Based Awards.** The Company shall settle payment of any amounts due under a Restricted Stock Unit (together with any Dividend Equivalent that it includes) or Stock Appreciation Right upon exercise of such right by the Grantee; provided, however, that notwithstanding any contrary provisions of the Plan, Restricted Stock Units (together with any Dividend Equivalent that it includes) that become Vested shall be settled by payment of amounts owed thereunder on or before the later of (i) the date that is two and one-half (2 1/2) months after the end of the Grantee's first taxable year in which such amounts are no longer subject to a substantial risk of forfeiture, or (ii) the date that is two and one-half (2 1/2) months after the end of the first taxable year of the person for whom the Grantee performed services in which such amounts are no longer subject to a substantial risk of forfeiture.

d. **Cash Awards.** Cash Awards shall be paid as described in Section 7 above.

10. Terms Applicable to Options

a. **Limit on Value of Options Granted.** Subject to Section 3.c. above, any number of Options may be granted from time to time to a person eligible to receive the same hereunder, except that in the case of Incentive Stock Options the aggregate Fair Market Value (determined as of the date each Option is granted) of all shares of Common Stock with respect to which Incentive Stock Options become exercisable for the first time by the Grantee in any one calendar year (under all incentive stock option plans of the Company and all Subsidiaries taken together) shall not exceed \$100,000.

b. **Exercise Price.** The exercise price for shares of Common Stock subject to an Option shall not be less than 100% of the Fair Market Value of a share of Common Stock as of the date of grant of the Option; provided, however, that in the case of an Incentive Stock Option granted to an Employee who immediately before the grant of such Incentive Stock Option is a Shareholder-Employee, the Incentive Stock Option exercise price shall be at least 110% of the Fair Market Value of the Common Stock as of the date of grant of the Incentive Stock Option.

c. **Term of Option.** No Option granted under the Plan shall in any event be exercisable after the expiration of ten (10) years from the date such Option is granted; provided, however, that in the case an Incentive Stock Option granted to an Employee who immediately before such Incentive Stock Option is granted is a Shareholder-Employee, the term of such Incentive Stock Option shall be for not more than five (5) years from the date such Option is granted. Subject to the foregoing and other applicable provisions of the Plan, the Committee shall determine the term of each Option in its sole discretion.

d. **Exercise During Lifetime of Grantee.** During the lifetime of a Grantee, only the Grantee may exercise such Option.

11. Termination of Employment or Directorship

a. **Unvested Awards.** Subject to the provisions of Section 8 above, a Grantee shall forfeit all rights in, to and under all Awards that have not Vested prior to the time the Grantee first ceases to be an Employee or Director. Such forfeiture shall occur without the need for further action by any person.

b. **Vested Restricted Stock Units and Cash Awards.** All Restricted Stock Units and Cash Awards that are Vested at the time a Grantee first ceases to be an Employee or Director shall be settled promptly following such event.

c. **Vested Options and Stock Appreciation Rights.** Options and Stock Appreciation Rights that are Vested at the time a Grantee first ceases to be an Employee or Director shall terminate on, if not exercised before, the earlier of (i) the same day of the third month after the date of termination of his status as an Employee or Director, or (ii) the expiration date of the Option or Stock Appreciation Right provided in the Award Agreement. Notwithstanding the immediately preceding sentence:

- (i) Upon the death of a Grantee who at the time of his death is an Employee or Director, and who has been an Employee or Director at all times since the date of grant of the Option or Stock Appreciation Right, all of such Grantee's Options and Stock Appreciation Rights that are Vested at the time of his death shall terminate, and may no longer be exercised, on the earlier of (a) one year after such date of death or at such later date as the Committee may set, in its sole discretion; or (b) the expiration date of the Option or Stock Appreciation Right provided in the Award Agreement, except that if the expiration date should occur during the 90-day period immediately following the Grantee's death, then the Option or Stock Appreciation Right shall terminate, and may no longer be exercised, at the end of such 90-day period. The Option or Stock Appreciation Right shall be exercisable at any time prior to such termination by the Grantee's estate, or by any person or persons who acquire the right to exercise the Option or Stock Appreciation Right by bequest, inheritance or otherwise by reason of the death of the Grantee;
- (ii) If a Grantee ceases to be an Employee or Director at any time during the term of his or her Option or Stock Appreciation Right by reason of a Disability and the Grantee has been an Employee or Director at all times since the date of grant of the Option or Stock Appreciation Right, an Option or Stock Appreciation Right that is Vested at such time shall terminate, and may no longer be exercised, on the earlier of (i) one year after the date the Grantee ceases to be an Employee or Director, or (ii) the expiration date of the Option or Stock Appreciation Right provided in his or her Award Agreement;
- (iii) If a Grantee ceases to be an Employee or Director for Cause, then all Options and Stock Appreciation Rights that are Vested at such time shall terminate, and may no longer be exercised, immediately upon his or her ceasing to be an Employee or Director; and
- (iv) Nonqualified Stock Options and Stock Appreciation Rights granted to a person who is a Director but who ceases thereafter to be a Director (other than due to death or Disability or Cause) shall expire at such time as the Committee shall determine, but in no event more than six (6) months after the person ceases to be a Director, and shall otherwise be exercisable on such terms and conditions as the Committee shall determine.

d. **Permitted Absences From Work.** A person shall not be treated as ceasing to be an Employee or Director if the interruption of his or her services as such is caused by military leave, sick leave or any other bona fide leave of absence approved by the Company or a Subsidiary, whichever is the entity for which the person primarily performs services; provided, however, that in the case of Incentive Stock Options, the foregoing is subject to any restrictions of laws or regulations applicable to such Options.

12. Compliance with Applicable Law and Clawback Policies

a. Shares of Common Stock shall not be issued pursuant to the Plan or any Award granted hereunder, unless the issuance and delivery of the shares will not violate, and can otherwise be done in a manner that complies with, the provisions of applicable law (including, without limitation, the Securities Act of 1933, as amended, and the Exchange Act), and the rules regulations of any stock exchange or quotation system on which the Common Stock may then be listed or quoted. Issuance of shares of Common Stock is further subject to the approval of counsel for the Company with respect to such compliance. Notwithstanding anything to the contrary, the Company will not be required to make any payment or grant any Award under the Plan or any Award Agreement that would otherwise be a prohibited golden parachute payment within the meaning of Section 18(k) of the Federal Deposit Insurance Act.

b. If the Committee at any time determines that any consent is necessary or desirable as a condition of, or in connection with, the granting of any Award, the delivery of shares of Common Stock or the delivery of any cash, securities or other property under the Plan, or the taking of any other action thereunder (each such action a “Plan Action”), then, subject to Section 22 such Plan Action will not be taken, in whole or in part, unless and until such consent will have been effected or obtained to the full satisfaction of the Committee. The Committee may direct that any certificate evidencing shares of Common Stock delivered pursuant to the Plan will bear a legend setting forth such restrictions on transferability as the Committee may determine to be necessary or desirable, and may advise the transfer agent to place a stop transfer order against any legended shares. The term “consent” for this purpose shall include (i) any listings, registrations, qualifications, consents or approvals upon or by any securities exchange or governmental agency or regulatory body, (ii) other consents or authorizations required to comply with applicable law or (iii) any consents by the Grantee to any restrictions on the shares of Common Stock or other property delivered under the Plan. Nothing herein will require the Company to list, register or qualify the Shares on any securities exchange.

c. Awards under the Plan will be subject to any clawback or recapture policy that the Company may adopt from time to time to the extent provided in such policy and, in accordance with such policy, may be subject to the requirement that the Awards be repaid to the Company after they have been distributed to the Grantee.

13. Tax Compliance

The Company, in its sole discretion, may take any actions that it deems to be necessary or advisable to comply with all tax reporting and withholding requirements applicable to Awards under applicable law, including, but not limited to, withholding or causing to be withheld from any form of compensation or other amount due a Grantee such amounts as the Company determines is required to be withheld. Notwithstanding anything to the contrary contained herein, in no event will the Company be liable to a Grantee on account of an Award’s failure to (a) qualify for favorable United States or foreign tax treatment or (b) avoid adverse tax treatment under United States or foreign law, including, without limitation, Section 409A.

14. Non-Transferability

No Award or rights under an Award may be sold, pledged, assigned, hypothecated, transferred, or disposed of in any manner, other than by will or by the laws of descent or distribution if permitted herein. Shares of Restricted Stock may be sold, pledged, assigned, hypothecated, transferred, or disposed of only after such shares Vest and are released from forfeiture restrictions in accordance with Section 9.b. and only in compliance with the Company’s policies as in effect from time to time.

15. Change in Control

a. Except as otherwise provided in the Award Agreement, in the event of a Change in Control, then all Awards (including Awards subject to performance-vesting conditions) shall immediately Vest as of the date of the closing of such transaction, unless the Committee elects to Vest the Awards as of an earlier date. Notwithstanding the immediately preceding sentence, if the surviving, successor or acquiring corporation in the transaction (or its parent) agrees to replace Awards with rights to its equity that confer substantially the same benefits as those represented by the Awards, as determined by the Committee, then the Awards shall not Vest but shall be so replaced. The Committee shall notify each Grantee in writing of any action to Vest or replace Awards hereunder not less than twenty (20) days prior to the expected closing date of the transaction that prompts such action. Unless the Committee determines otherwise or as otherwise provided in the applicable Award Agreement, if a Grantee’s Employment is terminated by the Company or any successor entity thereto without Cause, or the Grantee resigns his or her Employment for Good Reason, in either case, on or within two (2) years after a Change in Control, (i) each Award granted to such Grantee prior to such Change in Control will become fully vested (including the lapsing of all restrictions and conditions) and, as applicable, exercisable, and (ii) any Shares deliverable pursuant to Restricted Stock Units will be delivered promptly (but no later than 15 days) following such Grantee’s termination of employment.

b. Unless the Committee determines otherwise, as of the Change in Control date, any outstanding Awards that are subject to performance-vesting conditions shall be deemed earned at the greater of the target level and the actual performance level as of the date of the Change in Control with respect to all open performance periods and will cease to be subject to any further performance conditions. Such Awards will continue to be subject to time-based vesting following the Change in Control in accordance with the original performance period except as provided in Section 15.a. or as determined by the Committee in accordance with Section 15.c.

c. In the event of a Change in Control, a Grantee's Award will be treated, to the extent determined by the Committee to be permitted under Section 409A, in accordance with one or more of the following methods as determined by the Committee in its sole discretion: (i) settle such Awards for an amount of cash or securities equal to their value, where in the case of stock options and stock appreciation rights, the value of such awards, if any, will be equal to their in-the-money spread value (if any), as determined in the sole discretion of the Committee; (ii) provide for the assumption of or the issuance of substitute awards that will substantially preserve the otherwise applicable terms of any affected Awards previously granted under the Plan, as determined by the Committee in its sole discretion; (iii) modify the terms of such awards to add events, conditions or circumstances (including termination of Employment within a specified period after a Change in Control) upon which the vesting of such Awards or lapse of restrictions thereon will accelerate; or (iv) provide that for a period of at least 20 days prior to the Change in Control, any stock options or stock appreciation rights that would not otherwise become exercisable prior to the Change in Control will be exercisable as to all Shares subject thereto (but any such exercise will be contingent upon and subject to the occurrence of the Change in Control and if the Change in Control does not take place within a specified period after giving such notice for any reason whatsoever, the exercise will be null and void) and that any stock options or stock appreciation rights not exercised prior to the consummation of the Change in Control will terminate and be of no further force and effect as of the consummation of the Change in Control. In the event that the consideration paid in the Change in Control includes contingent value rights, earnout or indemnity payments or similar payments, then the Committee will determine if Awards settled under clause (i) above are (a) valued at closing taking into account such contingent consideration (with the value determined by the Committee in its sole discretion) or (b) entitled to a share of such contingent consideration. For the avoidance of doubt, in the event of a Change in Control where all Options and Stock Appreciation Rights are settled for an amount (as determined in the sole discretion of the Committee) of cash or securities, the Committee may, in its sole discretion, terminate any Stock Option or Stock Appreciation Right for which the exercise price is equal to or exceeds the per share value of the consideration to be paid in the Change in Control transaction without payment of consideration therefor. Similar actions to those specified in this Section 15 may be taken in the event of a merger or other corporate reorganization that does not constitute a Change in Control.

16. Rights as a Shareholder

No person shall have any rights as a shareholder by reason of an Award until and unless the Company actually issues and delivers shares of Common Stock to such person pursuant to the Award. In the case of Restricted Stock, the Grantee thereof shall have all the rights of a shareholder (including voting and liquidation rights) with respect to shares of Restricted Stock that are issued and delivered to the Grantee, until such shares are forfeited or reacquired by the Company in accordance with the terms of the Award. Notwithstanding the foregoing, all ordinary cash dividends or other ordinary distributions paid upon any share of Restricted Stock during the period of restriction shall be retained by the Company and shall be paid to the Grantee (without interest) if and to the extent that the Award of Restricted Stock vests and shall revert back to the Company if for any reason the share of Restricted Stock upon which such dividends or other distributions were paid reverts back to the Company. Any extraordinary dividends or other extraordinary distributions shall be treated in accordance with Section 17. If any such dividends or distributions are paid in Shares, such Shares shall automatically be subject to the same restrictions and conditions as the shares of Restricted Stock with respect to which they were paid.

17. Adjustments on Change in Capitalization

Subject to any required action by the shareholders of the Company, the number of shares of Common Stock subject to Awards, the number of shares of Common Stock available for grants under additional Awards, the exercise price for shares of Common Stock specified in each outstanding Option or Stock Appreciation Right, the value of Common Stock used to determine amounts required to be paid under Restricted Stock Units (together with any Dividend Equivalent that it includes) and Stock Appreciation Rights and the individual Grantee limitations set

forth in Section 3.c. shall be proportionately adjusted for any increase or decrease in the number of issued shares of Common Stock resulting from a stock split or other subdivision or consolidation of shares, the payment of any extraordinary cash or stock dividend on the Common Stock or any other increase or decrease in the number of such shares of Common Stock effected without receipt of consideration by the Company; provided, however, that conversion of any convertible securities of the Company shall not be deemed to have been “effected without receipt of consideration.” The Committee shall make such adjustments and its determination in that respect shall be final, binding and conclusive. No Incentive Stock Option shall be adjusted by the Committee pursuant to this Section 17 in a manner that causes the Incentive Stock Option to fail to continue to qualify as an “incentive stock option” within the meaning of Code Section 422. Except as otherwise expressly provided in this Section 17, no Grantee shall have any rights by reason of any stock split or other subdivision or consolidation of shares, any payment of an extraordinary cash or stock dividend, or any other increase or decrease in the number of such shares of Common Stock. Except as otherwise expressly provided in this Section 17, any issuance by the Company of shares of stock of any class, or securities convertible into shares of stock of any class, shall not affect the number of shares or price of Common Stock subject to any Award, and no adjustments in Awards shall be made by reason thereof. The grant of an Award shall not affect in any way the right or power of the Company to adjust, reclassify, reorganize or change its capital or business structure.

18. Term of the Plan

The Plan became effective on March 28, 2018 and was approved by shareholders on May 23, 2018. The Plan, as amended by the Board on [●] shall be effective on shareholder approval. Revisions and amendments to the Plan requiring the approval of shareholders of the Company, as described in Section 20, shall be effective when approved by the shareholders. Subject to Section 20, the Plan shall have a term of 10 years following the date of shareholder approval on May 23, 2018. In the event the Plan terminates or is terminated as provided in this Section 18 or Section 20, it shall remain in effect with respect to any Awards granted under it that are outstanding at the time of such termination.

19. No Right to Employment

Neither the adoption of the Plan nor the granting of an Award shall (i) confer upon any person a right to be employed by or to provide services to the Company or any Subsidiary, or to continue such employment or service; or (ii) interfere in any way with the right of a person, or the right of the Company or a Subsidiary, to terminate such employment relationship or service at any time.

20. Amendment or Early Termination of the Plan

a. **Amendment or Early Termination.** The Board may terminate the Plan at any time. The Board may amend the Plan from time to time in such respects as the Board deems advisable, except that, without proper approval of the shareholders of the Company, no such revision or amendment shall:

- (1) increase the number of shares of Common Stock subject to the Plan, other than in connection with an adjustment under Section 17; or
- (2) otherwise modify the Plan in a manner that would require shareholder approval under any applicable laws or regulations or the rules of any stock exchange or quotation system on which the Common Stock may then be listed or quoted.

Subject to the foregoing, it is specifically intended that the Board or Committee may amend the Plan without shareholder approval to comply with legal, regulatory, and stock exchange or quotation system requirements and to avoid unanticipated consequences deemed by the Committee to be inconsistent with the purposes of the Plan or any Award Agreement.

b. **Modification and Amendment of Awards.** The Board or Committee may modify or amend outstanding Awards granted under the Plan; provided, however that the modification or amendment shall not, without the consent of the Grantee, materially impair or diminish any of the Grantee’s rights or any of the

obligations of the Company under such Award. Except as otherwise provided in this Plan, no outstanding Award shall be terminated without the consent of the Grantee. Unless the Grantee otherwise agrees, any changes or adjustments made to outstanding Incentive Stock Options granted under this Plan shall be prospective only and shall be made in a manner that will not constitute a "modification," as defined in Code Section 424(h), and will not cause such Incentive Stock Options to fail to qualify as "incentive stock options" under Code Section 422.

c. **Re-pricing or Repurchase of Options and Stock Appreciation Rights.** The exercise price of outstanding Options and Stock Appreciation Rights may not be changed, and the Company may not make an offer to purchase outstanding Options or Stock Appreciation Rights for cash or exchange outstanding Options or Stock Appreciation Rights for other securities, at a time when the exercise price of the outstanding Options or Stock Appreciation Rights exceeds the Fair Market Value of the Common Stock covered by the Options or Stock Appreciation Rights, except (i) with the approval of shareholders of the Company, or (ii) as otherwise required or permitted in the Plan.

21. Nature of Awards; Other Payments or Awards

All Awards are unfunded and unsecured obligations of the Company. Any bookkeeping entries maintained by the Company with respect to Awards are merely for the convenience of the Company. The Company is not required to segregate any assets that may at any time represent an Award and no Grantee or other person shall have any rights or interests in any particular assets of the Company by reason of an Award. A Grantee is a mere general unsecured creditor of the Company with respect to an Award. Nothing contained in the Plan will be deemed in any way to limit or restrict the Company from making any award or payment to any person under any other plan, arrangement or understanding, whether now existing or hereafter in effect.

22. IRC Section 409A

The provisions of this Plan are intended to comply with Section 409A of the Code, U.S. Treasury regulations issued thereunder, and related U.S. Internal Revenue Service guidance ("Section 409A"). Such provisions will be interpreted and applied in a manner consistent with Section 409A so that payments and benefits provided to Employee hereunder will not, to the greatest extent possible, be subject to taxation under such Section 409A. Notwithstanding any contrary provisions hereof, this Plan may be amended if and to the extent the Company determines that such amendment is necessary to comply with Section 409A. Without limiting the generality of this Section 22, with respect to any Award made under the Plan that is intended to be "deferred compensation" subject to Section 409A:

a. Any payment due upon a Grantee's termination of employment will be paid only upon such Grantee's separation from service from the Company within the meaning of Section 409A;

b. Any payment due upon a Change in Control of the Company will be paid only if such Change in Control constitutes a "change in ownership" or "change in effective control" within the meaning of Section 409A, and in the event that such Change in Control does not constitute a "change in the ownership" or "change in the effective control" within the meaning of Section 409A, such Award will vest upon the Change in Control and any payment will be delayed until the first compliant date under Section 409A;

c. Any payment to be made with respect to such Award in connection with the Grantee's separation from service from the Company within the meaning of Section 409A (and any other payment that would be subject to the limitations in Section 409A(a)(2)(B) of the Code) will be delayed until six months after the Grantee's separation from service (or earlier death) in accordance with the requirements of Section 409A;

d. To the extent necessary to comply with Section 409A, any other securities, other Awards or other property that the Company may deliver in lieu of Shares in respect of an Award will not have the effect of deferring delivery or payment beyond the date on which such delivery or payment would occur with respect to the Shares that would otherwise have been deliverable (unless the Committee elects a later date for this purpose in accordance with the requirements of Section 409A);

e. With respect to any required consent described in Section 12(b) or the applicable Award Agreement, if such consent has not been effected or obtained as of the latest date provided by such Award Agreement for payment in respect of such Award and further delay of payment is not permitted in accordance with the requirements of Section 409A, such Award or portion thereof, as applicable, will be forfeited and terminate notwithstanding any prior earning or vesting;

f. If the Award includes a “series of installment payments” (within the meaning of Section 1.409A-2(b)(2)(iii) of the Treasury Regulations), the Grantee’s right to the series of installment payments will be treated as a right to a series of separate payments and not as a right to a single payment;

g. If the Award includes Dividend Equivalents, the Grantee’s right to the Dividend Equivalents will be treated separately from the right to other amounts under the Award; and

h. For purposes of determining whether the Grantee has experienced a separation from service from the Company within the meaning of Section 409A, “subsidiary” will mean a corporation or other entity in a chain of corporations or other entities in which each corporation or other entity, starting with the Company, has a controlling interest in another corporation or other entity in the chain, ending with such corporation or other entity. For purposes of the preceding sentence, the term “controlling interest” has the same meaning as provided in Section 1.414(c)-2(b)(2)(i) of the Treasury Regulations, provided that the language “at least 20 percent” is used instead of “at least 80 percent” each place it appears in Section 1.414(c)-2(b)(2)(i) of the Treasury Regulations.

23. Non-Uniform Determinations; Waiver of Claims; No Third-Party Beneficiaries

a. The Committee’s determinations under the Plan and Award Agreements need not be uniform and any such determinations may be made by it selectively among persons who receive, or are eligible to receive, Awards under the Plan (whether or not such persons are similarly situated). Without limiting the generality of the foregoing, the Committee will be entitled, among other things, to make non-uniform and selective determinations under Award Agreements, and to enter into non-uniform and selective Award Agreements, as to (a) the persons to receive Awards, (b) the terms and provisions of Awards and (c) whether a Grantee’s employment has been terminated for purposes of the Plan.

b. Each Grantee of an Award recognizes and agrees that before being selected by the Committee to receive an Award the Grantee has no right to any benefits under the Plan. Accordingly, in consideration of the Grantee’s receipt of any Award hereunder, the Grantee expressly waives any right to contest the amount of any Award, the terms of any Award Agreement, any determination, action or omission hereunder or under any Award Agreement by the Committee, the Company or the Board, or any amendment to the Plan or any Award Agreement (other than an amendment to the Plan or an Award Agreement to which his or her consent is expressly required by the Plan or the express terms of an Award Agreement). Nothing contained in the Plan, and no action taken pursuant to its provisions, will create or be construed to create a trust of any kind or a fiduciary relationship between the Company and any Grantee. The Plan is not intended to be subject to the Employee Retirement Income Security Act of 1974, as amended.

c. Except as expressly provided in an Award Agreement, neither the Plan nor any Award Agreement will confer on any person other than the Company and the Grantee of any Award any rights or remedies thereunder. The exculpation and indemnification provisions of Section 4.c. will inure to the benefit of a Covered Person’s estate and beneficiaries and legatees.

24. Construction of Certain Terms

The term “Section” or “Sections,” as used herein, shall mean a Section or Sections of this Plan, unless otherwise required by the context. As required by the context (i) the masculine form of words shall include the feminine, and vice-versa, and (ii) the singular form of words shall include the plural form, and vice-versa.

25. Governing Law

This Plan and any agreements or other documents hereunder shall be interpreted and construed in accordance with the laws of the State of Washington and applicable Federal law. Any reference in this Plan or in any Award Agreement to a provision of law or to a rule or regulation shall be deemed to include any successor law, rule or regulation of similar effect or applicability.

* * * * *

CERTIFICATE OF ADOPTION

I certify that the foregoing Plan was duly adopted by the Board of Directors of Columbia Banking System, Inc. on March 28, 2018 and duly approved by the shareholders of Columbia Banking System, Inc. on May 23, 2018.

/s/ CATHLEEN DENT
Cathleen Dent, Assistant Secretary

CERTIFICATE OF AMENDMENT

I certify that the foregoing Plan was duly amended by the Board of Directors of Columbia Banking System, Inc. on March 27, 2019 and duly approved by the shareholders of Columbia Banking System, Inc. on May 22, 2019.

/s/ CATHLEEN DENT
Cathleen Dent, Assistant Secretary

**COLUMBIA BANKING SYSTEM, INC.
RESTRICTED STOCK AGREEMENT**

THIS RESTRICTED STOCK AGREEMENT (“Agreement”) is entered into by and between Columbia Banking System, Inc. (“Company”) and _____ (“Grantee”).

1. Basic Terms of Award

Number of Shares of Restricted
Stock Subject to the Award: _____

Fair Market Value on Date of Award
of Shares of Restricted Stock: \$ _____

Amount Required to be Paid
for Shares of Restricted Stock: \$ 0.00

Date of Award: _____

2. Company hereby awards to Grantee the number of shares of Restricted Stock described above (“Award”).

3. The Award is made under the 2018 Equity Incentive Plan of Columbia Banking System, Inc. (the “Plan”), a copy of which has been provided to Grantee. By Grantee’s execution of this Agreement, Grantee acknowledges that he or she has received a copy of the Plan. The terms and conditions of the Plan are hereby incorporated into this Agreement by this reference. In the event of a conflict between the terms and conditions of the Plan and the terms and conditions of this Agreement, the former shall govern. Capitalized terms used in this Agreement that are not defined herein shall have the meaning given to such terms in the Plan.

4. Vesting of Award

The Award shall Vest in accordance with the criteria set forth in Appendix A hereto.

5. Grantee shall have all of the rights of a shareholder with respect to shares of Restricted Stock subject to this Award, unless and until such shares are forfeited or reacquired by the Company in accordance with the terms of this Agreement; **provided that all ordinary cash dividends or other ordinary distributions paid upon any share of Restricted Stock before that share Vests will be retained by Company and paid to the Grantee (without interest) if and when that share Vests.**

6. Shares of Restricted Stock subject to this Award may not be sold, pledged, assigned, hypothecated, transferred, or disposed of in any manner, other than by will or by the laws of descent or distribution, prior to the time such shares Vest.

7. Shares of Restricted Stock subject to this Award shall not be issued, unless the issuance and delivery of such shares shall comply with all relevant provisions of law, including, without limitation, all securities laws, rules and regulations, and the requirements of any stock exchange upon which the Restricted Stock may then be listed. Issuance of shares of Restricted Stock is further subject to the approval of counsel for Company with respect to such compliance.

8. Company, in its sole discretion, may take any actions reasonably believed by it to be required to comply with any local, state, or federal tax laws relating to the reporting or withholding of taxes attributable to the issuance of the Restricted Stock subject to this Award, including, but not limited to, *(i)* withholding, or causing to be withheld, from any form of compensation or other amount due Grantee any amount required to be withheld under applicable tax laws, or *(ii)* requiring Grantee to make arrangements satisfactory to Company (including, without limitation, paying amounts) to satisfy any tax obligations, as a condition to recognizing any rights of Grantee under the Award.
9. Grantee acknowledges that he/she understands the following:
 - a. Under Section 83(a) of the U.S. Internal Revenue Code of 1986, as amended (the "Code"), the excess of the fair market value on the date of vesting of the shares of Restricted Stock over the fair market value on the date of award of such shares will be taxed at the time of Vesting as ordinary income and subject to payroll and withholding taxes and to tax reporting, as applicable.
 - b. Grantee may elect under Section 83(b) of the Code to be taxed at ordinary income rates based on the fair market value of the shares of Restricted Stock at the time such shares are awarded, rather than at the time and as the shares of Restricted Stock Vest. Such election (an "83(b) Election") must be filed with the Internal Revenue Service within thirty (30) days from the Date of Award. *(a)* Grantee will not be entitled to a deduction for any ordinary income previously recognized as a result of the 83(b) Election if shares of Restricted Stock are subsequently forfeited to the Company, and *(b)* the 83(b) Election may cause Grantee to recognize more compensation income than he would have otherwise recognized if the value of the shares of Restricted Stock subsequently declines. The form for making an 83(b) Election is attached hereto as Exhibit A. FAILURE TO FILE SUCH AN ELECTION WITHIN THE REQUIRED THIRTY (30) DAY PERIOD AND AS OTHERWISE DESCRIBED IN THE FORM MAY RESULT IN THE RECOGNITION OF ORDINARY INCOME BY GRANTEE AS SHARES OF RESTRICTED STOCK VEST.
 - c. The foregoing is only a summary of the federal income tax laws that apply to the shares of Restricted Stock and does not purport to be complete. GRANTEE IS DIRECTED TO SEEK INDEPENDENT ADVICE REGARDING THE APPLICABLE PROVISIONS OF THE CODE, THE INCOME TAX LAWS OF ANY MUNICIPALITY, STATE OR FOREIGN COUNTRY IN WHICH HE MAY RESIDE, AND THE TAX CONSEQUENCES OF YOUR DEATH.
10. Miscellaneous
 - a. Each party agrees to cooperate fully with the other party and to execute such further instruments, documents and agreements, and to give such further written assurances, as may be reasonably requested by the other party to better evidence and reflect the transactions described herein and contemplated hereby, and to carry into effect the intents and purposes of this Agreement.
 - b. All notices and other writings of any kind that a party to this Agreement may or is required to give hereunder to any other party hereto shall be in writing and may be delivered by personal service or overnight courier, facsimile, or registered or certified mail, return receipt requested, deposited in the United States mail with postage thereon fully prepaid, addressed *(i)* if to Company, to its home office, marked to the attention of the corporate secretary of Company; or *(ii)* if to

Grantee, to his address set forth on the signature page hereof. Any notice or other writings so delivered shall be deemed given (i) if by mail, on the second (2nd) business day after mailing, and (ii) if by other means, on the date of actual receipt by the party to whom it is addressed. Any party hereto may from time to time by notice in writing served upon the other as provided herein, designate a different mailing address or a different person to which such notices or demands are thereafter to be addressed or delivered.

- c. Attorneys' Fees. In any action at law or in equity to enforce any of the provisions or rights under this Agreement, the unsuccessful party to such litigation, as determined by the court in a final judgment or decree, shall pay the successful party all costs, expenses and reasonable attorneys' fees incurred by the successful party (including, without limitation, costs, expenses and fees on any appeal).
- d. Waiver. No waiver of any term, provision or condition of this Agreement, whether by conduct or otherwise, in any one or more instances, shall be deemed to be, or be construed as, a further or continuing waiver of any such term, provision or condition or as a waiver of any other term, provision or condition of this Agreement.
- e. Choice of Law. It is the intention of the parties that the internal laws of the State of Washington (irrespective of any choice of law principles) shall govern the validity of this Agreement, the construction of its terms and the interpretation of the rights and duties of the parties.
- f. Successors in Interest. This Agreement and all of its terms, conditions and covenants are intended to be fully effective and binding, to the extent permitted by law, on the heirs, executors, administrators, successors and permitted assigns of the parties hereto.

IN WITNESS WHEREOF, the parties have executed this Agreement on the day and year first indicated above.

COMPANY COLUMBIA BANKING SYSTEM, INC.,
a Washington corporation

By: __

Print name:

Title:

GRANTEE By: __

Print name:

APPENDIX A

Option 1: Continuous Status

Except as otherwise provided in the Plan, Restricted Stock subject to this Award shall no longer Vest, and shall be forfeited without payment of any kind to Grantee, immediately after Grantee fails to maintain continuous status as a Director/an Employee, to the extent such Restricted Stock is not then Vested in accordance with the following vesting schedule:

If Grantee maintains continuous status as a Director/an Employee on the following date/s	Then the following percent of the number of shares of Restricted Stock subject to the Award shall Vest *
* Rounded up in each case to the nearest whole number. But in no event shall more than the total number of Restricted Stock Units subject to this Award, as described in Paragraph 1 of the Agreement, Vest over the entire vesting period.	

**COLUMBIA BANKING SYSTEM, INC.
RESTRICTED STOCK UNIT AGREEMENT**

THIS RESTRICTED STOCK UNIT AGREEMENT (“Agreement”) is entered into by and between Columbia Banking System, Inc. (“Company”) and _____ (“Grantee”).

1. Basic Terms of Award

Number of Restricted Stock
Units Subject to the Award: _____

Date of Award: _____

2. Company hereby awards to Grantee the number of Restricted Stock Units (“*RSUs*”) described above (the “*Award*”). Each RSU entitles Grantee to receive a payment in Common Stock or cash, or a combination of both, as determined by the Company, with a value equal to the sum of (i) the Fair Market Value, on the date the RSU is settled, of one share of Common Stock and (ii) the Dividend Equivalent with respect to such RSU.

3. The Award is made under the 2018 Equity Incentive Plan of Columbia Banking System, Inc. (the “*Plan*”), a copy of which has been provided to Grantee. By Grantee’s execution of this Agreement, Grantee acknowledges that he or she has received a copy of the Plan. The terms and conditions of the Plan are hereby incorporated into this Agreement by this reference. In the event of a conflict between the terms and conditions of the Plan and the terms and conditions of this Agreement, the former shall govern. Capitalized terms used in this Agreement that are not defined herein shall have the meaning given to such terms in the Plan.

4. Vesting and Settlement of Award

RSUs shall Vest in accordance with the criteria set forth in Appendix A hereto and be settled in accordance with Section 9(c) of the Plan.

5. Grantee shall have no rights as a shareholder with respect to any RSUs or any shares of Common Stock subject to the Award, unless and until such shares are actually issued and delivered to Grantee.

6. No rights under the RSUs may be sold, pledged, assigned, hypothecated, transferred, or disposed of in any manner, other than by will or by the laws of descent or distribution.

7. No shares of Common Stock shall be issued with respect to a RSU, unless the issuance and delivery of such shares shall comply with all relevant provisions of law, including, without limitation, all securities laws, rules and regulations, and the requirements of any stock exchange upon which the Common Stock may then be listed. Issuance of such shares is further subject to the approval of counsel for Company with respect to such compliance.

8. Company, in its sole discretion, may take any actions reasonably believed by it to be required to comply with any local, state, or federal tax laws relating to the reporting or withholding of taxes attributable to the RSUs, including, but not limited to, (i) withholding, or causing to be withheld, from any form of compensation or other amount due Grantee any amount required to be withheld under applicable tax laws, or

(ii) requiring Grantee to make arrangements satisfactory to Company (including, without limitation, paying amounts) to satisfy any tax obligations, as a condition to recognizing any rights of Grantee under the Award.

9. Miscellaneous

- a. Each party agrees to cooperate fully with the other party and to execute such further instruments, documents and agreements, and to give such further written assurances, as may be reasonably requested by the other party to better evidence and reflect the transactions described herein and contemplated hereby, and to carry into effect the intents and purposes of this Agreement.
- b. All notices and other writings of any kind that a party to this Agreement may or is required to give hereunder to any other party hereto shall be in writing and may be delivered by personal service or overnight courier, facsimile, or registered or certified mail, return receipt requested, deposited in the United States mail with postage thereon fully prepaid, addressed (i) if to Company, to its home office, marked to the attention of the corporate secretary of Company; or (ii) if to Grantee, to Grantee's address set forth on the signature page hereof. Any notice or other writings so delivered shall be deemed given (i) if by mail, on the second (2nd) business day after mailing, and (ii) if by other means, on the date of actual receipt by the party to whom it is addressed. Any party hereto may from time to time by notice in writing served upon the other as provided herein, designate a different mailing address or a different person to which such notices or demands are thereafter to be addressed or delivered.
- c. Attorneys' Fees. In any action at law or in equity to enforce any of the provisions or rights under this Agreement, the unsuccessful party to such litigation, as determined by the court in a final judgment or decree, shall pay the successful party all costs, expenses and reasonable attorneys' fees incurred by the successful party (including, without limitation, costs, expenses and fees on any appeal).
- d. Waiver. No waiver of any term, provision or condition of this Agreement, whether by conduct or otherwise, in any one or more instances, shall be deemed to be, or be construed as, a further or continuing waiver of any such term, provision or condition or as a waiver of any other term, provision or condition of this Agreement.
- e. Choice of Law. It is the intention of the parties that the internal laws of the State of Washington (irrespective of any choice of law principles) shall govern the validity of this Agreement, the construction of its terms and the interpretation of the rights and duties of the parties.
- f. Successors in Interest. This Agreement and all of its terms, conditions and covenants are intended to be fully effective and binding, to the extent permitted by law, on the heirs, executors, administrators, successors and permitted assigns of the parties hereto.

IN WITNESS WHEREOF, the parties have executed this Agreement on the day and year first indicated above.

COMPANY COLUMBIA BANKING SYSTEM, INC.,
a Washington corporation

By:___

Print name:

Title:

GRANTEE By:___

Print name:

Title:

Address: _____

APPENDIX A

Time-Vesting RSUs

Except as otherwise provided in the Plan, RSUs subject to this Award shall no longer Vest, and shall be forfeited without payment of any kind to Grantee, immediately after Grantee fails to maintain continuous status as an Employee, to the extent such RSUs are not then Vested in accordance with the following vesting schedule:

If Grantee maintains continuous status as an Employee on the following date/s:	Then the following [percent of the] number of RSUs shall Vest:

**COLUMBIA BANKING SYSTEM, INC.
PERFORMANCE STOCK UNIT AGREEMENT**

THIS PERFORMANCE STOCK UNIT AGREEMENT (“Agreement”) is entered into by and between Columbia Banking System, Inc. (“Company”) and _____ (“Grantee”).

1. Basic Terms of Award

Target Number of Performance
Stock Units Subject to the Award: _____

Performance Period: _____

Date of Award: _____

2. Company hereby awards to Grantee the target number of Performance Stock Units (“*PSUs*”) described above (the “*Award*”). Each PSU entitles Grantee to receive a payment in Common Stock or cash, or a combination of both, as determined by the Company, with a value equal to the sum of (i) the Fair Market Value, on the date the PSU is settled, of one share of Common Stock and (ii) the Dividend Equivalent with respect to such PSU. The number of PSUs that the Grantee actually earns pursuant to the Award will be determined by the level of achievement of certain performance goals set forth in Appendix A hereto.

3. The Award is made under the 2018 Equity Incentive Plan of Columbia Banking System, Inc. (the “*Plan*”), a copy of which has been provided to Grantee. By Grantee’s execution of this Agreement, Grantee acknowledges that he or she has received a copy of the Plan. The terms and conditions of the Plan are hereby incorporated into this Agreement by this reference. In the event of a conflict between the terms and conditions of the Plan and the terms and conditions of this Agreement, the former shall govern. Capitalized terms used in this Agreement that are not defined herein shall have the meaning given to such terms in the Plan.

4. Vesting and Settlement of Award

PSUs shall Vest in accordance with the criteria set forth in Appendix A hereto and be settled in accordance with Section 9(c) of the Plan. Any PSUs that do not Vest will be forfeited.

5. Dividend Equivalent

During the Performance Period, the Dividend Equivalent will accrue based on the maximum number of PSUs subject to the Award, which is set forth in Appendix A hereto. Upon settlement of the Award, Dividend Equivalents will only be payable on the number of vested PSUs, and Dividend Equivalents on unvested PSUs will be forfeited.

6. Grantee shall have no rights as a shareholder with respect to any PSUs or any shares of Common Stock subject to the Award, unless and until such shares are actually issued and delivered to Grantee.

7. No rights under the PSUs may be sold, pledged, assigned, hypothecated, transferred, or disposed of in any manner, other than by will or by the laws of descent or distribution.

8. No shares of Common Stock shall be issued with respect to a PSU, unless the issuance and delivery of such shares shall comply with all relevant provisions of law, including, without limitation, all securities laws, rules and regulations, and the requirements of any stock exchange upon which the Common Stock may then be listed. Issuance of such shares is further subject to the approval of counsel for Company with respect to such compliance.
9. Company, in its sole discretion, may take any actions reasonably believed by it to be required to comply with any local, state, or federal tax laws relating to the reporting or withholding of taxes attributable to the PSUs, including, but not limited to, (i) withholding, or causing to be withheld, from any form of compensation or other amount due Grantee any amount required to be withheld under applicable tax laws, or (ii) requiring Grantee to make arrangements satisfactory to Company (including, without limitation, paying amounts) to satisfy any tax obligations, as a condition to recognizing any rights of Grantee under the Award.
10. Miscellaneous
 - a. Each party agrees to cooperate fully with the other party and to execute such further instruments, documents and agreements, and to give such further written assurances, as may be reasonably requested by the other party to better evidence and reflect the transactions described herein and contemplated hereby, and to carry into effect the intents and purposes of this Agreement.
 - b. All notices and other writings of any kind that a party to this Agreement may or is required to give hereunder to any other party hereto shall be in writing and may be delivered by personal service or overnight courier, facsimile, or registered or certified mail, return receipt requested, deposited in the United States mail with postage thereon fully prepaid, addressed (i) if to Company, to its home office, marked to the attention of the corporate secretary of Company; or (ii) if to Grantee, to Grantee's address set forth on the signature page hereof. Any notice or other writings so delivered shall be deemed given (i) if by mail, on the second (2nd) business day after mailing, and (ii) if by other means, on the date of actual receipt by the party to whom it is addressed. Any party hereto may from time to time by notice in writing served upon the other as provided herein, designate a different mailing address or a different person to which such notices or demands are thereafter to be addressed or delivered.
 - c. Attorneys' Fees. In any action at law or in equity to enforce any of the provisions or rights under this Agreement, the unsuccessful party to such litigation, as determined by the court in a final judgment or decree, shall pay the successful party all costs, expenses and reasonable attorneys' fees incurred by the successful party (including, without limitation, costs, expenses and fees on any appeal).
 - d. Waiver. No waiver of any term, provision or condition of this Agreement, whether by conduct or otherwise, in any one or more instances, shall be deemed to be, or be construed as, a further or continuing waiver of any such term, provision or condition or as a waiver of any other term, provision or condition of this Agreement.
 - e. Choice of Law. It is the intention of the parties that the internal laws of the State of Washington (irrespective of any choice of law principles) shall govern the

validity of this Agreement, the construction of its terms and the interpretation of the rights and duties of the parties.

- f. Successors in Interest. This Agreement and all of its terms, conditions and covenants are intended to be fully effective and binding, to the extent permitted by law, on the heirs, executors, administrators, successors and permitted assigns of the parties hereto.

IN WITNESS WHEREOF, the parties have executed this Agreement on the day and year first indicated above.

COMPANY COLUMBIA BANKING SYSTEM, INC.,
a Washington corporation

By:___

Print name:

Title:

GRANTEE By:___

Print name:

Title:

Address: _____

APPENDIX A

Performance Goals

PSUs subject to this Award shall vest according to performance against pre-established goals approved by the Committee as follows:

Performance Measure	Weighting	Measurement Perspective	Performance Goals		
			Threshold	Target	Stretch
Return on Average Assets	50%	Relative to Peer Banks	25 th Percentile	50 th Percentile	75 th Percentile
Total Shareholder Return	50%	Relative to Peer Banks	25 th Percentile	50 th Percentile	75 th Percentile
Payout as % of Target			50%	100%	150%

Return on Average Assets (ROAA): Average of ROAA for the calendar quarters (each quarter calculated separately) measured on a relative basis against a defined group of Peer Banks over the Performance Period or, in the event of earlier vesting for death, Disability or a Change in Control, through the end of the quarter for which financial performance data is publicly available immediately preceding the event.

Total Shareholder Return: Measured on a relative basis against a defined group of Peer Banks over the Performance Period or, in the event of earlier vesting for death, Disability or a Change in Control, through the end of the quarter for which financial performance data is publicly available immediately preceding the event (calculated assuming that dividends during the period are reinvested in company shares on the date paid).

For relative performance calculations, Peer Banks will consist of all companies (other than the Company) included in the KBW Regional Banking Index (KRX) as of the last day of the Performance Period or, in the event of earlier vesting for death, Disability or a Change in Control, as of the applicable end-date for which performance is measured.

All financial performance determinations for the Company and the Peer Banks will be made at the ultimate parent company level. The source of data for financial performance determination will be SNL Financial.

Payout Determination

PSUs will vest based on achievement of performance levels – including threshold, target, and stretch – and associated payouts will be established at the beginning of the Performance Period. At the end of each Performance Period, the Company’s actual performance and the resulting payouts will be determined. Performance below “threshold” for a given performance measure will result in forfeiture of the respective PSUs; performance at or above “stretch” for a given performance measure will result in payout equal to 150% of the respective target PSUs. Performance between threshold – target – stretch will be determined using straight line interpolation and rounded up to the nearest whole number of PSUs.

PSUs subject to this Award shall vest according to the following schedule:

Performance Measure	Below Threshold Performance # of PSUs	Threshold Performance # of PSUs	Target Performance # of PSUs	Stretch Performance (Maximum) # of PSUs
Return on Average Assets	0			
Total Shareholder Return	0			

The Company’s performance and the resulting payouts will be determined as soon as practicable following the filing of the Company’s Form 10-K for the fiscal year ending December 31, 2022. Payouts for performance between threshold – target – stretch will be determined using straight line interpolation and rounded up to the nearest whole number of shares.

Special Treatment Upon a Qualifying Retirement

In the event of separation from service for reasons other than death, Disability, Change in Control or for Cause, a participant that meets the requirements of a “qualifying retirement” will remain eligible to earn a prorated portion of any outstanding PSUs based on actual performance in accordance with the applicable determination criteria set forth above. The prorated portion will be determined based on the number of completed calendar months of active service during the Performance Period divided by 36 and payout, if any, will occur at the same time as other participants. For purposes of this section, “qualifying retirement” means separation from service after attainment of age 62 and completion of at least five years of service with the Company or Columbia State Bank, a Washington banking corporation and wholly owned subsidiary of the Company.

**AMENDMENT
TO
AMENDED AND RESTATED
COLUMBIA BANKING SYSTEM, INC.
2005 401 PLUS PLAN**

THIS AMENDMENT, effective as of January 1, 2023 (the "Effective Date"), is hereby adopted by Columbia Banking System, Inc. (the "Company") on November 14, 2022.

Recitals

- A. The Company entered into a deferred compensation arrangement with certain of its directors and a select group of senior management and highly compensated employees, and with the directors and a select group of senior management and highly compensated employees of entities with which it is considered a single employer under §§ 414(b) or 414(c) of the U.S. Internal Revenue Code of 1986, as amended ("Code").
- B. Such compensation arrangement was governed by the terms of the 401 Plus Plan ("Plan"), dated December 8, 2005.
- C. The Company amended and restated the Plan in December 2006, to bring it into compliance with Code § 409A and provisional regulations issued thereunder.
- D. The Company further amended and restated the Plan in December 2008 to ensure that all terms and definitions comply with Code § 409A and final regulations issued thereunder and further amended the Plan in December 2011.
- E. The Company further amended and restated the Plan in October 2016 to freeze participation in the Plan as of October 26, 2016, and to make other further non-substantive changes to the language of the Plan.
- F. The Company now wishes to amend Section VI, Paragraph A of the Plan to adopt a new interest rate for purposes of calculating the Interest Crediting Rate because the LIBOR rate currently used to calculate the Interest Crediting Rate will be discontinued on the Effective Date.

Amendment

1. **Interest Crediting Rate.** Paragraph A of Section VI of the Plan is hereby amended to read as follows:

“At the time of amendment of the Plan, the agreed upon interest rate shall be equal to the three month SOFR rate plus 3.84%. The Plan Administrator shall annually review the calculation of the rate of interest that will be applied to DCAs (the “Interest Crediting Rate”) for appropriateness. The Interest Crediting Rate shall be adjusted quarterly for fluctuations in the three month SOFR rate. Plan participants will be notified of any adjustments to the Interest Crediting Rate.”

2. **Other Terms Unchanged.** Except as modified by this Amendment, the Plan remains in full force and effect.

COLUMBIA BANKING SYSTEMS, INC.

By: /s/ KUMI BARUFFI
Its: Corporate Secretary

**AMENDMENT
TO
COLUMBIA BANKING SYSTEM, INC.
2016 401 PLUS PLAN**

THIS AMENDMENT, effective as of January 1, 2023 (the "Effective Date"), is hereby adopted by Columbia Banking System, Inc. (the "Company") on November 14, 2022.

Recitals

- A. The Company established the 2016 401 Plus Plan (the "Plan") to provide deferred compensation for the directors and a select group of senior management and highly compensated employees, and with the directors and a select group of senior management and highly compensated employees of entities with which it is considered a single employer under §§ 414(b) or 414(c) of the U.S. Internal Revenue Code of 1986, as amended ("Code").
- B. The Company now wishes to amend Section VI, Paragraph A of the Plan to adopt a new interest rate for purposes of calculating the Interest Crediting Rate because the LIBOR rate currently used to calculate the Interest Crediting Rate will be discontinued on the Effective Date.

Amendment

1. **Interest Crediting Rate.** Paragraph A of Section VI of the Plan is hereby amended to read as follows:

“At the time of amendment of the Plan, the agreed upon interest rate shall be equal to the three month SOFR rate plus 3.84%. The Plan Administrator shall annually review the calculation of the rate of interest that will be applied to DCAs (the “Interest Crediting Rate”) for appropriateness. The Interest Crediting Rate shall be adjusted quarterly for fluctuations in the three month SOFR rate. Plan participants will be notified of any adjustments to the Interest Crediting Rate.”

2. **Other Terms Unchanged.** Except as modified by this Amendment, the Plan remains in full force and effect.

COLUMBIA BANKING SYSTEMS, INC.

By: /s/ KUMI BARUFFI
Its: Corporate Secretary

AMENDED & RESTATED EMPLOYMENT AGREEMENT

This AMENDED & RESTATED EMPLOYMENT AGREEMENT (this "Agreement"), dated as of October 11, 2021, by and between Columbia State Bank, a Washington banking corporation ("Columbia Bank"), together with Columbia Banking System, Inc., a Washington corporation ("CBSI") and, as applicable, its subsidiaries and affiliates (Columbia Bank, CBSI and their subsidiaries, collectively, the "Company") and Clint E. Stein (the "Executive"). Capitalized terms used but not defined in this Agreement have the meanings ascribed to them in the Agreement and Plan of Merger by and among Umpqua Holdings Corporation, CBSI and Cascade Merger Sub, Inc., dated as of October 11, 2021.

RECITALS

WHEREAS, the Executive currently serves as the President and Chief Executive Officer of Columbia Bank and CBSI pursuant to an Employment Agreement among Columbia Bank, CBSI and the Executive, dated September 30, 2019 (the "Prior Employment Agreement");

WHEREAS, the Company desires to continue to employ the Executive following the Closing; and

WHEREAS, the Company and the Executive wish to amend and restate the Prior Employment Agreement to reflect the revised terms of the Executive's employment following the Closing.

NOW THEREFORE, in consideration of the mutual promises made in this Agreement, the parties agree as follows:

1. Term.

(a) The term of this Agreement will commence upon the Closing and will expire upon the fifth anniversary of the Closing (the "Term"), unless terminated earlier in accordance with Section 3.

(b) If the Merger Agreement is terminated before the Closing in accordance with its terms, or if Executive is not employed by the Company as of immediately prior to the Closing, (i) this Agreement will automatically terminate and be void *ab initio* and (ii) the Prior Employment Agreement will remain in full force and effect.

2. Terms of Employment.

(a) Position and Duties.

(i) The Executive shall serve as President & Chief Executive Officer of CBSI and Chief Executive Officer of the Surviving Bank, with the duties and responsibilities that are customarily assigned to such positions. The Executive shall report to the Board of Directors of CBSI and the Board of Directors of the Surviving Bank (the "Board"). The Executive's principal place of employment shall be at the Company's corporate offices in

Tacoma, Washington. The Executive shall be subject to and shall abide by each of the personnel policies applicable to senior executives and employees of the Company.

(ii) Executive shall continue to serve as a member of the Board following the Closing and during the Term, the Company shall use its best efforts to nominate the Executive for reelection to the Board. The Executive shall not receive separate or additional compensation for such Board service. At the termination of the Executive's employment with the Company, the Executive shall resign from the Board and from his position as an officer or director of any of the Company's subsidiaries if requested to do so by the Company. The preceding sentence shall survive any termination of this Agreement.

(iii) While employed by the Company, but excluding any periods of vacation and sick leave to which the Executive is entitled under this Agreement, the Executive shall be employed by the Company on a full-time basis and agrees to devote such time as is necessary to discharge the responsibilities assigned to the Executive hereunder and to use the Executive's reasonable best efforts to perform such responsibilities faithfully and efficiently. The Executive may (A) with the prior written approval of the Board (which will not be unreasonably withheld), serve on corporate, civic or charitable boards or committees, (B) deliver lectures, fulfill speaking engagements or teach at educational institutions, or (C) manage personal investments, so long as such activities do not interfere with the performance of the Executive's responsibilities to the Company and the Executive's compliance with this Agreement, including, but not limited to, Section 9 and Section 10.

(b) Compensation.

(i) Base Salary. During the Term, the Executive shall receive an annual base salary (the "Annual Base Salary") at a rate of \$1,150,000 payable in accordance with the Company's normal payroll policies. The Annual Base Salary shall be reviewed by the Compensation Committee of the Board (the "Committee") for increase (but not decrease) at least annually pursuant to the Company's normal performance review policies for executives. The Annual Base Salary shall not be reduced after any increase and the term Annual Base Salary as used in this Agreement shall refer to Annual Base Salary as so increased.

(ii) Annual Bonus. With respect to each fiscal year ending during the Term, the Executive shall be eligible to receive an annual cash bonus (the "Annual Bonus") with a target opportunity of not less than 100% of Annual Base Salary (the "Target Bonus"). The actual Annual Bonus earned by the Executive, which could be higher or lower than the Target Bonus, shall be determined based on the attainment of performance objectives to be established by the Board or the Committee and shall be paid in accordance with the annual incentive plan applicable to other senior executives for the year to which the Annual Bonus relates. The Target Bonus shall be reviewed by the Committee for increase (but not decrease) at least annually pursuant to the Company's normal performance review policies for executives.

(iii) Long-Term Incentive Awards. With respect to each fiscal year ending during the Term (commencing with the annual grant cycle in the fiscal year in which the Closing occurs), the Executive shall be granted long-term incentive awards with an annual target opportunity of 200% of Annual Base Salary (the "Annual LTI"). To the extent the Executive has

received an annual grant from the Company under the Prior Employment Agreement in the fiscal year in which the Closing occurs, but prior to the Closing Date, then promptly following the Closing (and in no event later than thirty (30) days after the Closing Date), the Executive shall receive an additional grant such that Executive's total long-term incentive award grant for the fiscal year in which the Closing occurs has a target opportunity equal to 200% of Annual Base Salary (as defined, for the avoidance of doubt, in this Agreement). The Annual LTI shall be reviewed by the Committee for increase (but not decrease) at least annually pursuant to the Company's normal performance review policies for executives. The timing, form and terms and conditions of such long-term incentive awards shall be no less favorable than the timing, form and terms and conditions applicable to other senior executives; provided, however, that, for the first three years of the Term, in no event shall that portion of the Executive's Annual LTI grant that vests, in whole or in part, based on the satisfaction of performance conditions be greater than 60% of the total Annual LTI grant.

(iv) SERP. Executive acknowledges and agrees that, for purposes of calculating the Executive's benefits under the Columbia State Bank Supplemental Executive Retirement Plan by and between Columbia Bank and the Executive, as amended from time to time (the "SERP") the Executive's "Base Salary" (as defined in the SERP) was frozen at \$450,000 effective as of January 1, 2020 so that any increases to the Executive's Base Salary beginning on such date will not be reflected for purposes of the SERP. The Executive otherwise shall continue to participate in the SERP (including with respect to vesting service credit), and remain eligible for benefits under the Supplemental Compensation Agreement (sometimes referred to as a "Unit Plan") to which the Executive is a party, in accordance with their respective terms and conditions.

(v) Other Employee Benefit Plans. While employed by the Company, the Executive and/or the Executive's family, as the case may be, shall be eligible for participation in all benefits under all plans, practices, policies and programs provided by the Company on a basis that is no less favorable than those generally applicable or made available to other executives of the Company. The Executive shall be eligible for participation in fringe benefits and perquisite plans, practices, policies and programs (including, without limitation, expense reimbursement plans, practices, policies and programs) on a basis that is no less favorable than those generally applicable or made available to other senior officers of the Company.

(vi) Synergy Integration Award. Following the Closing, the Board may grant the Executive a synergy integration or similar award to support a successful integration of CBSI and Umpqua. Any such award shall be determined by the Board in its discretion and be subject to the terms and conditions of the applicable plan and/or award agreement, as applicable.

3. Termination of Employment.

(a) Death or Disability. The Executive's employment shall terminate automatically upon the Executive's death. If the Company determines in good faith that the Disability (as defined below) of the Executive has occurred while the Executive is employed by the Company, it may provide the Executive with written notice in accordance with Section 11(a).

of this Agreement of its intention to terminate the Executive's employment. In such event, the Executive's employment with the Company shall terminate effective on the 30th day after receipt of such notice by the Executive (the "Disability Effective Date"); provided, that, within the 30 days after such receipt, the Executive shall not have returned to full-time performance of the Executive's duties. For purposes of this Agreement, "Disability" shall mean the absence of the Executive from the Executive's duties with the Company on a full-time basis for 90 consecutive days, or a total of 180 days in any 12 month period, as a result of incapacity due to mental or physical illness that is determined to be total and permanent by a physician selected by the Company or its insurers and acceptable to the Executive or the Executive's legal representative.

(b) Cause. The Company may terminate the Executive's employment either with or without Cause. For purposes of this Agreement, "Cause" shall mean:

(i) embezzlement, dishonesty or fraudulent acts involving the Company or the Company's business operations;

(ii) willful material breach of Section 10 or Section 11 of this Agreement or a written policy of the Company;

(iii) conviction (where entered upon a verdict or a plea, including a plea of no contest) on any felony charge or on a misdemeanor directly reflecting upon the Executive's honesty; or

(iv) an act or omission that materially injures the Company's reputation, business affairs or financial condition, if that injury could have been reasonably avoided by the Executive.

Prior to the third anniversary of the Closing Date, any cessation of the Executive's employment shall not be deemed to be for Cause unless and until there shall have been delivered to the Executive a copy of a resolution duly adopted by the affirmative vote of at least 75% of the full Board at a meeting of the Board called and held for such purpose (after reasonable notice is provided to the Executive and the Executive is given an opportunity, together with the Executive's counsel, to be heard before the Board), finding that, in the good faith opinion of the Board, the Executive is guilty of the conduct described in sub-clause (i), (ii) or (iv) above, and specifying the particulars thereof in detail.

(c) Good Reason. The Executive's employment may be terminated by the Executive with or without Good Reason. For purposes of this Agreement, "Good Reason" shall mean, in the absence of a written consent of the Executive, any of the following:

(i) a material diminution in the Executive's total compensation from that set forth in Section 2(b)(i), (ii) and (iii);

(ii) a material diminution in the Executive's authority, duties, or responsibilities; or

(iii) a material change in the geographic location at which the Executive must perform services (within the meaning of Treasury Regulations Section 1.409A-1(n)(2)(ii)(A)(5)), provided that in no event shall a change in geographic location of less than forty-five (45) miles be considered a material change in geographic location for purposes of this Agreement.

In the event of any of the forgoing circumstances, the Executive shall provide notice to the Company of the existence of the conditions described above within a period not to exceed ninety (90) days of the initial existence of said condition, upon the notice of which the Company must be provided a period of at least thirty (30) days during which it may remedy the condition. If the condition is not remedied within those thirty (30) days, and the Executive voluntarily terminates (other than due to Disability) his employment within sixty (60) days after such 30-day period, then such termination shall be deemed to have been for “Good Reason.”

For the avoidance of doubt, the Executive hereby acknowledges and agrees that the transactions or other actions contemplated by the Merger Agreement, including any changes in the Executive’s employment, shall not constitute or give rise to a valid claim of Good Reason under this Agreement, the Prior Employment Agreement, the Executive’s equity and other long-term incentive awards, the SERP or any other compensation or benefit arrangement applicable to the Executive.

(d) Notice of Termination. Any termination by the Company for Cause, or by the Executive for Good Reason, shall be communicated by notice of termination to the other party hereto given in accordance with Section 11(a) of this Agreement.

(e) Date of Termination. “Date of Termination” means (i) if the Executive’s employment is terminated by the Company for Cause, or by the Executive with or without Good Reason, the date of receipt of the notice of the termination of the Executive’s employment with the Company or any later date specified therein within 30 days of such notice, as the case may be, (ii) if the Executive’s employment is terminated by the Company other than for Cause, Disability or death, the Date of Termination shall be the date on which the Company notifies the Executive of such termination or any later date specified by the Company and (iii) if the Executive’s employment is terminated by reason of death or Disability, the Date of Termination shall be the date of death of the Executive or the Disability Effective Date, as the case may be.

(f) Required Approval. Notwithstanding anything contained herein to the contrary, prior to the third anniversary of the Closing Date, (i) the Executive’s removal from, or the failure to appoint, re-elect or re-nominate the Executive to, as applicable, the Executive’s positions as the President and Chief Executive Officer of CBSI and Chief Executive Officer of the Surviving Bank and as a member of the Board, (ii) any termination of the Executive’s employment for any reason by CBSI, the Surviving Bank or any of their respective subsidiaries, or (iii) any modification to the terms and conditions of this Agreement that would be a basis for the Executive to assert a claim for termination for Good Reason will, in each case, require the affirmative vote of at least 75% of the full Board.

4. Obligations of the Company upon Termination.

(a) Qualifying Termination. If (1) the Company terminates the Executive's employment for any reason other than for Cause, Disability or death or (2) the Executive terminates employment for Good Reason (each, a "Qualifying Termination"), in either case more than six months prior to, or more than 24 months following, a Change in Control (as defined in the 2018 Equity Incentive Plan of Columbia Banking System, Inc. and including, for the avoidance of doubt, the Merger):

(i) the Company shall pay to the Executive in a lump sum in cash within 30 days after the Date of Termination the aggregate of (1) the Executive's accrued Annual Base Salary and any accrued vacation pay through the Date of Termination, (2) the Executive's business expenses that have not been reimbursed by the Company as of the Date of Termination that were incurred by the Executive prior to the Date of Termination in accordance with the applicable Company policy, and (3) the Executive's Annual Bonus earned for the fiscal year immediately preceding the fiscal year in which the Date of Termination occurs if such bonus has been determined but not paid as of the Date of Termination (the sum of the amounts described in clauses (1) through (3) shall be hereinafter referred to as the "Accrued Obligations");

(ii) subject to Section 4(e), the Company shall pay to the Executive a cash severance benefit in an amount equal to two times the Executive's Annual Base Salary (the "Severance Benefits"). The Company shall pay the Severance Benefits in substantially equal installments in accordance with the Company's normal payroll policies over the two-year period following the Date of Termination; provided that the first payment shall be made on the 60th day following the Date of Termination and shall include all installments otherwise payable within such 60-day period;

(iii) subject to Section 4(e), the Company shall pay to the Executive in a lump sum in cash a pro rata portion of any Annual Bonus earned for the year in which the Date of Termination occurs (with proration determined based on the number of months in the fiscal year in which the Executive is employed with the Company). The Company shall pay the prorated Annual Bonus at the same time as the Company pays annual bonuses to active employees (and no later than March 15 of the year following the fiscal year to which the Annual Bonus relates);

(iv) subject to Section 4(e), a pro rata portion of any long-term incentive awards granted to the Executive shall vest as follows: (1) a pro rata portion of any long-term incentive award that is not subject to performance-based vesting conditions shall vest as of the Date of Termination (with proration determined based on the number of months in the applicable vesting period in which the Executive is employed with the Company) and (2) a pro rata portion of any long-term incentive award that is subject to performance-based vesting conditions shall vest as of the regularly scheduled vesting date based on actual performance (with proration determined based on the number of months in the applicable vesting period in which the Executive is employed with the Company), and, in each case, any payment or delivery shall be made in respect of such awards within 60 days following vesting subject to compliance with Section 409A of the Code. For illustrative purposes only, if the Executive holds 96 restricted shares that are scheduled to vest over a four-year period (the "Illustrative Vesting Period") and that are not subject to performance vesting, and the Executive's employment terminates 15.5 months after the beginning of the Illustrative Vesting Period, then 16/48 of the

restricted shares (32 restricted shares) will vest upon the Executive's termination (regardless of the vesting schedule set forth in the award and without duplication of any previous vesting) subject to Section 4(e) and the remaining 64 restricted shares will be forfeited;

(v) subject to Section 4(e), for the 24-month period immediately following the Date of Termination, the Company shall continue the health and welfare benefits

provided to the Executive and his dependents at the levels provided to active employees; provided that, if the Company determines that such continuation is not feasible without the payment of taxes or penalties or is not permissible under applicable law, the Company and the Executive shall cooperate in good faith to modify this section in such a manner that does not materially increase the cost to the Company (collectively, the “Welfare Benefits”); and

(vi) to the extent not theretofore paid or provided, the Company shall timely pay or provide to the Executive any other amounts or benefits required to be paid or provided or that the Executive is eligible to receive under any plan, program, policy, practice, contract or agreement of the Company and its affiliated companies through the Date of Termination (such other amounts and benefits shall be hereinafter referred to as the “Other Benefits”). As used in this Agreement, the term “affiliated companies” shall include any company controlled by, controlling or under common control with the Company.

(b) Qualifying Termination in Connection with a Change in Control. If the Executive experiences a Qualifying Termination within six months prior to, or within 24 months following a Change in Control:

(i) the Company shall pay to the Executive in a lump sum in cash within 30 days after the Date of Termination the Accrued Obligations;

(ii) the Company shall pay to the Executive a cash severance benefit in an amount equal to 2.5 times the sum of the Executive’s Annual Base Salary and Target Bonus (the “CIC Severance Benefits”). The Company shall pay the CIC Severance Benefits in substantially equal monthly installments in accordance with the Company’s normal payroll policies over a 30-month period following the Date of Termination; provided that, if the Date of Termination is prior to a Change in Control, the first payment after the Change in Control shall include amounts owed and not paid prior to the Change in Control as a result of the difference in value between the CIC Severance Benefits and the Severance Benefits;

(iii) the Company shall pay to the Executive in a lump sum in cash a pro rata portion of the Executive’s Target Bonus (with proration determined based on the number of months in the fiscal year in which the Executive is employed with the Company). The Company shall pay the prorated Target Bonus no later than March 15 of the year following the fiscal year to which the Annual Bonus relates;

(iv) the Executive’s long-term incentive awards shall be treated in accordance with their terms;

(v) subject to Section 4(e), for the 30-month period immediately following the Date of Termination, the Company shall continue the Welfare Benefits; and

(vi) to the extent not theretofore paid or provided, the Company shall timely pay or provide to the Executive the Other Benefits.

(c) Death; Disability. If the Executive's employment is terminated by reason of the Executive's death or Disability, this Agreement shall terminate without further obligations to the Executive's legal representatives or the Executive, as applicable, under this Agreement, other than for (i) payment of Accrued Obligations and (ii) the timely payment or provision of Other Benefits. The Accrued Obligations shall be paid to the Executive's estate or beneficiary or the Executive, as applicable, in a lump sum in cash within 30 days of the Date of Termination. With respect to the provision of the Other Benefits, the term Other Benefits as utilized in this Section 4(c) shall include death benefits, if applicable, for which the Company pays as in effect on the date of the Executive's death.

(d) Cause; Other Than for Good Reason. If the Executive's employment is terminated by the Company for Cause or the Executive terminates employment without Good Reason, this Agreement shall terminate without further obligations to the Executive's legal representatives or the Executive, as applicable, under this Agreement, other than for (i) payment of Accrued Obligations and (ii) the timely payment or provision of Other Benefits. The Accrued Obligations shall be paid to the Executive in a lump sum in cash within 30 days of the Date of Termination.

(e) Release of Claims. The termination benefits described in Section 4(a) of this Agreement (excluding the Accrued Benefits and Other Benefits) shall be conditioned on the Executive delivering to the Company, and not revoking, a signed release of claims in a form provided by the Company within fifty-five days following the Date of Termination. Notwithstanding any provision of this Agreement to the contrary, in no event shall the timing of the Executive's execution of the release, directly or indirectly, result in the Executive designating the calendar year of payment, and, to the extent required by Section 409A of the Code, if a payment that is subject to execution of the release could be made in more than one taxable year, payment shall be made in the later taxable year, as promptly as practicable following the later of (1) the execution of the release and (2) the first business day of such later taxable year.

5. Full Settlement. The Company's obligation to make the payments provided for in this Agreement and otherwise to perform the obligations hereunder shall not be affected by any setoff, counterclaim, recoupment, defense or other claim, right or action that the Company may have against the Executive or others. In no event shall the Executive be obligated to seek other employment or take any other action by way of mitigation of the amounts payable to the Executive under any of the provisions of this Agreement, and such amounts shall not be reduced whether or not the Executive obtains other employment.

6. Section 280G. In the event that any payments or benefits otherwise payable to the Executive (1) constitute "parachute payments" within the meaning of Section 280G of the Code, and (2) but for this Section 6, would be subject to the excise tax imposed by Section 4999 of the Code, then such payments and benefits shall be either (x) delivered in full, or (y) delivered as to such lesser extent that would result in no portion of such payments and benefits being subject to excise tax under Section 4999 of the Code, whichever of the foregoing amounts, taking into account the applicable federal, state and local income and employment taxes and the excise tax

imposed by Section 4999 of the Code (and any equivalent state or local excise taxes), results in the receipt by the Executive on an after-tax basis, of the greatest amount of benefits. Any reduction in payments and/or benefits required by this provision shall occur in the following order: (1) reduction of cash payments that are exempt from Section 409A of the Code; (2) reduction of vesting acceleration of equity awards; and (3) reduction of other benefits paid or provided to the Executive. In the event that acceleration of vesting of equity awards is to be reduced, such acceleration of vesting shall be cancelled in a manner that results in the maximum economic benefit to the Executive subject to compliance with Section 409A of the Code.

7. Successors.

(a) This Agreement is personal to the Executive and without the prior written consent of the Company shall not be assignable by the Executive. This Agreement shall inure to the benefit of and be enforceable by the Executive's legal representatives, heirs or legatees.

(b) This Agreement shall inure to the benefit of and be binding upon the Company and its successors and assigns.

(c) The Company shall require any successor (whether direct or indirect, by purchase, merger, consolidation or otherwise) to all or substantially all of the business and/or assets of the Company to assume expressly and agree to perform this Agreement in the same manner and to the same extent that the Company would be required to perform it if no such succession had taken place. As used in this Agreement, the "Company" shall mean the Company as hereinbefore defined and any successor to its business and/or assets as aforesaid that assumes and agrees to perform this Agreement by operation of law, or otherwise.

8. Governing Law; Venue; Arbitration. This Agreement is made with reference to and is intended to be construed in accordance with the laws of the State of Washington. Venue for any action arising out of or concerning this Agreement shall lie in Pierce County, Washington. In the event of a dispute under this Agreement, the dispute shall be arbitrated pursuant to the Superior Court Mandatory Arbitration Rules ("MAR") adopted by the Washington State Supreme Court, irrespective of the amount in controversy. This Agreement shall be deemed as stipulation to the effect pursuant to MAR 1.2 and 8.1. The arbitrator, in his or her discretion, may award attorney's fees to the prevailing party or parties.

9. Restrictive Covenants.

(a) Non-competition. The Executive agrees that, during the Executive's employment with the Company, and for a period of two years thereafter (collectively, the "Non-Competition Period"), the Executive shall not directly or indirectly become interested in, as a "founder," organizer, principal shareholder, director, or officer, any financial institution, now existing or organized hereafter, that competes or may compete with the Company or any of its affiliates (for purposes of this Section 9, collectively the "Company"), including any successor, within any county in which the Company does business; provided that the Executive shall not be deemed a "principal shareholder" unless (i) the Executive's investment in such an institution exceeds 2% of the institution's outstanding voting securities or (ii) the Executive is active in the

organization, management or affairs of such institution. The provisions restricting competition by the Executive may be waived by action of the Board.

(b) Non-interference. During the Non-Competition Period, the Executive shall not (a) solicit or attempt to solicit any other employee of the Company to leave the employ of the Company, or in any way interfere with the relationship between the Company and any other employee of the Company, (b) solicit or attempt to solicit any customer of the Company to cease doing business with the Company or to otherwise divert such customer's business from the Company, or (c) solicit or attempt to solicit any supplier, licensee, or other business relations of the Company to cease doing business with the Company.

(c) Interpretation. If a court or any other administrative body with jurisdiction over a dispute related to this Agreement should determine that the restrictive covenants set forth in this Section 9 are unreasonably broad, the parties hereby authorize and direct said court or administrative body to narrow the same so as to make it reasonable, given all relevant circumstances, and to enforce the same. The covenants in this Section 9 shall survive termination of this Agreement.

(d) Injunctive Relief. The Executive recognizes and agrees that any breach of the covenants set forth in this Section 9 by the Executive will cause immediate and irreparable injury to the Company, and the Executive hereby authorizes recourse by the Company to injunction and/or specific performance, as well as to other legal or equitable remedies to which either may be entitled.

10. Confidentiality.

(a) Nondisclosure. The Executive shall not use or disclose any confidential information (as defined in subsection (c) below) either during or following the term of this Agreement, except as required by the Executive's duties under this Agreement or as otherwise allowed under subsection (b) below. Notwithstanding anything to the contrary in this Agreement or otherwise, nothing shall limit the Executive's rights under applicable law to provide truthful information to any governmental entity or to file a charge with or participate in an investigation conducted by any governmental entity. The Executive is hereby notified that the immunity provisions in Section 1833 of title 18 of the United States Code provide that an individual cannot be held criminally or civilly liable under any federal or state trade secret law for any disclosure of a trade secret that is made (1) in confidence to federal, state or local government officials, either directly or indirectly, or to an attorney, and is solely for the purpose of reporting or investigating a suspected violation of the law, (2) under seal in a complaint or other document filed in a lawsuit or other proceeding, or (3) to the Executive's attorney in connection with a lawsuit for retaliation for reporting a suspected violation of law (and the trade secret may be used in the court proceedings for such lawsuit) as long as any document containing the trade secret is filed under seal and the trade secret is not disclosed except pursuant to court order.

(b) Exceptions. The Executive's nondisclosure obligation under subsection (a) above does not apply to any use or disclosure that is:

- (i) Made with the prior written consent of the Board;

(ii) Required by a court order or a subpoena from a government agency (provided, however, that the Executive must first provide the Company with reasonable notice of the court order or subpoena in order to allow the Company the opportunity to contest the requested disclosure); or

(iii) Of confidential information that has been previously disclosed to the public by the Company or is in the public domain (other than by reason of Executive's breach of this Agreement).

(c) "Confidential Information" includes any of the Company's (or its subsidiaries' or affiliate's) trade secrets, customer or prospect lists, information regarding product development, marketing plans, sales plans, strategic plans, projected acquisitions or dispositions, management agreements, management organization information (including data and other information relating to members of the Board of Directors of Columbia Bank (and, following the Closing, the Surviving Bank), the Board and management), operating policies or manuals, business plans, purchasing agreements, financial records, or other similar financial, commercial, business or technical information of any information that the Company or any of its subsidiaries or affiliates has received from service providers, other vendors or customers that these third parties have designated as confidential or proprietary.

(d) Survival. This section shall survive the termination of Executive's employment.

11. Miscellaneous.

(a) All notices and other communications hereunder shall be in writing and shall be given by hand delivery to the other parties or by registered or certified mail, return receipt requested, postage prepaid, addressed as follows:

If to the Executive: At the most recent address on file at the Company.

If to the Company: Columbia Bank
1301 'A' Street, Ste. 800
Tacoma, WA 98402-4200
ATTN: (Corporate Secretary)

or to such other address as either party shall have furnished to the other in writing in accordance herewith. Notice and communications shall be effective when actually received by the addressee.

(b) The invalidity or unenforceability of any provision of this Agreement shall not affect the validity or enforceability of any other provision of this Agreement.

(c) This Agreement may be executed by .pdf or facsimile signatures and in any number of counterparts with the same effect as if all signatory parties had signed the same document. All counterparts shall be construed together and shall constitute one and the same instrument.

(d) The Company may withhold from any amounts payable under this Agreement such federal, state, local or foreign taxes as shall be required to be withheld pursuant to any applicable law or regulation.

(e) Any provision of this Agreement that by its terms continues after the expiration of this Agreement or the termination of the Executive's employment shall survive in accordance with its terms.

(f) This Agreement is intended to comply with the requirements of Section 409A of the Code (together with the applicable regulations thereunder, "Section 409A"). To the extent that any provision in this Agreement is ambiguous as to its compliance with Section 409A, such provision shall be read in such a manner so that all payments due under this Agreement shall comply with Section 409A. In no event may Executive, directly or indirectly, designate the calendar year of payment. Each payment under this Agreement shall be treated as a separate payment for purposes of Section 409A. Anything in this Agreement to the contrary notwithstanding, if at the time of the Executive's separation from service within the meaning of Section 409A of the Code, the Executive is considered a "specified employee" within the meaning of Section 409A(a)(2)(B)(i) of the Code, and if any payment that the Executive becomes entitled to under this Agreement is deferred compensation subject to interest, penalties and additional tax imposed pursuant to Section 409A of the Code as a result of the application of Section 409A(a)(2)(B)(i) of the Code, then no such payment shall be payable prior to the date that is the earlier of (i) six months and one day after the Executive's separation from service or (ii) the Executive's death. In no event shall the date of termination of the Executive's employment be deemed to occur until the Executive experiences a "separation from service" within the meaning of Section 409A of the Code, and notwithstanding anything contained herein to the contrary, the date on which such separation from service takes place shall be the Date of Termination. All reimbursements provided under this Agreement shall be provided in accordance with the requirements of Section 409A of the Code, including, where applicable, the requirement that (A) the amount of expenses eligible for reimbursement during one calendar year shall not affect the amount of expenses eligible for reimbursement in any other calendar year; (B) the reimbursement of an eligible expense shall be made no later than the last day of the calendar year following the calendar year in which the expense is incurred; and (C) the right to any reimbursement shall not be subject to liquidation or exchange for another benefit. Notwithstanding the foregoing, the Company makes no representation or covenant to ensure that the payments and benefits under this Agreement are exempt from, or compliant with, Section 409A of the Code.

(g) Except as explicitly set forth herein, this Agreement constitutes the entire agreement between the parties hereto with respect to the subject matter hereof, and supersedes all prior agreements, oral or written, between the parties hereto with respect to the subject matter hereof, including without limitation the Prior Employment Agreement. For the avoidance of doubt, the parties understand, acknowledge, and agree that the terms of this Agreement are not intended by the Executive, Columbia Bank, or CBSI, and shall not be interpreted by any party, court or arbitrator, to supersede, modify, amend, change, negate, cancel or render null or void the terms of the SERP or Unit Plan.

[Remainder of Page Intentionally Left Blank]

IN WITNESS WHEREOF, the Executive has hereunto set the Executive's hand and, pursuant to the authorization from their respective boards of directors, each of Columbia Bank and CBSI has caused these presents to be executed in its name on its behalf, all as of the day and year first above written.

EXECUTIVE

By /s/ CLINT E. STEIN
Name: Clint E. Stein

[Signature Page to Amended and Restated Employment Agreement]

COLUMBIA STATE BANK

By /s/ CRAIG D. EERKES
Name: Craig D. Eerkes
Title: Chairman of the Board
of Directors

COLUMBIA BANKING SYSTEM,
INC.

By /s/ CRAIG D. EERKES
Name: Craig D. Eerkes
Title: Chairman of the Board
of Directors

[Signature Page to Amended and Restated Employment Agreement]

AMENDMENT NO. 1 TO THE EMPLOYMENT AGREEMENT AND THE A&R EMPLOYMENT AGREEMENT

This AMENDMENT NO. 1 (this “Amendment”), effective as of December 31, 2022, to the Employment Agreement dated as of September 30, 2019 (the “Employment Agreement”), by and among Columbia State Bank, a Washington banking corporation (“Columbia Bank”), together with Columbia Banking System, Inc., a Washington corporation (“CBSI”), and, as applicable, its subsidiaries and affiliates (Columbia Bank, CBSI and their subsidiaries, collectively, the “Company”) and Clint E. Stein (the “Executive”), and to the Amended and Restated Employment Agreement, dated as of October 11, 2021, by and between Columbia Bank, CBSI and the Executive (the “A&R Employment Agreement”), is made and entered into by and among Columbia Bank, CBSI and the Executive. Capitalized terms used but not defined herein shall have the meanings ascribed to such terms in the Employment Agreement.

RECITALS

WHEREAS, Columbia Bank, CBSI and the Executive entered into the Employment Agreement on September 30, 2019;

WHEREAS, Columbia Bank, CBSI and the Executive entered into the A&R Employment Agreement on October 11, 2021; and

WHEREAS, each of Columbia Bank, CBSI and the Executive desire to extend the employment of the Executive as President and Chief Executive Officer of Columbia Bank and CBSI for the period provided in this Amendment, subject to the terms and conditions set forth in the Employment Agreement.

NOW, THEREFORE, in consideration of the mutual premises made in this Amendment, the Employment Agreement and the A&R Employment Agreement, the parties agree as follows:

1. Termination Date. Section 1 of the Employment Agreement is hereby amended and replaced in its entirety as follows:

“1. Term. The term (“Term”) of this Agreement shall begin on January 1, 2020 (the “Effective Date”) and continue until the earlier of (1) April 11, 2023 and (2) the date of commencement of the term of the Amended and Restated Employment Agreement, dated as of October 11, 2021 (as amended from time to time, in accordance with its terms), by and among Columbia Bank, CBSI and the Executive pursuant to Section 1(a) thereof, unless terminated earlier in accordance with Section 3.”

2. Prior Employment Agreement. For the purposes of the A&R Employment Agreement, the term “Prior Employment Agreement” shall mean the Employment Agreement as amended by this Amendment.

3. Confirmation of Employment Agreement. Other than as expressly modified pursuant to this Amendment, all of the terms, covenants and other provisions of the Employment Agreement are hereby ratified and confirmed and shall, continue to be in full force and effect in accordance with its terms. For the avoidance of doubt, other than as expressly modified pursuant to this Amendment, all of the terms, covenants and other provisions of the A&R Employment Agreement shall, upon its effectiveness, be in full force and effect in accordance with its terms.

4. Counterparts. This Amendment may be executed in any number of counterparts, each such counterpart being deemed to be an original instrument, and all such counterparts shall together constitute one and the same agreement.

5. Miscellaneous Provisions. The provisions of Section 7, Section 8 and Section 11 of the Employment Agreement shall apply *mutatis mutandis* to this Amendment. The Employment Agreement as modified by this Amendment, shall be taken together as a single agreement, reflecting the terms therein as modified by this Amendment, and the A&R Employment Agreement as modified by this Amendment shall be taken together as a single agreement, reflecting the terms therein as modified by this Amendment.

[Signature Page Follows]

IN WITNESS WHEREOF, this Amendment has been duly executed and delivered by the parties hereto effective as of the date first written above.

EXECUTIVE

By: /s/ CLINT E. STEIN
Name: Clint E. Stein

COLUMBIA STATE BANK

By: /s/ CRAIG D. EERKES
Name: Craig D. Eerkes
Title: Chairman of the Board of Directors

COLUMBIA BANKING SYSTEM, INC.

By: /s/ CRAIG D. EERKES
Name: Craig D. Eerkes Title: Chairman of the Board of Directors

*[Signature Page to Amendment No. 1 to Clint E. Stein Employment Agreement and
the Amended and Restated Employment Agreement]*

SUBSIDIARIES OF THE COMPANY

Name of Subsidiary	State of Incorporation	Ownership
Columbia State Bank	Washington	100 %
Columbia Trust Company	Oregon	100 %

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in Registration Statement Nos. 333-160371 and 333-225955 on Form S-8 and Registration Statement No. 333-261936 on Form S-3 of our reports dated February 24, 2023, relating to the consolidated financial statements of Columbia Banking System, Inc., and the effectiveness of Columbia Banking System, Inc.'s internal control over financial reporting, appearing in this Annual Report on Form 10-K of Columbia Banking System, Inc., for the year ended December 31, 2022.

/s/ Deloitte & Touche LLP

Seattle, Washington

February 24, 2023

POWER OF ATTORNEY

The director of Columbia Banking System, Inc. (the “Company”), whose signature appears below, hereby appoints Clint E. Stein and Craig D. Eerkes, or either of them, as his/her attorney to sign, in his/her name and behalf and in any and all capacities stated below, the Company's Form 10-K Annual Report pursuant to Section 13 of the Securities Exchange Act of 1934, and likewise to sign any and all amendments and other documents relating thereto as shall be necessary, such person hereby granting to each such attorney power to act with or without the other and full power of substitution and revocation, and hereby ratifying all that any such attorney or his substitute may do by virtue hereof.

This Power of Attorney has been signed by the following persons in the capacity indicated, on the 24th day of February, 2023.

<u>Signature</u>	<u>Title</u>
<u>/s/ CRAIG D. EERKES</u> Craig D. Eerkes	Chairman
<u>/s/ CLINT E. STEIN</u> Clint E. Stein	President and Chief Executive Officer
<u>/s/ LAURA ALVAREZ SCHRAG</u> Laura Alvarez Schrag	Director
<u>/s/ FORD ELSAESSER</u> Ford Elsaesser	Director
<u>/s/ MARK A. FINKELSTEIN</u> Mark A. Finkelstein	Director
<u>/s/ ERIC S. FORREST</u> Eric S. Forrest	Director
<u>/s/ MICHELLE M. LANTOW</u> Michelle M. Lantow	Director
<u>/s/ RANDAL L. LUND</u> Randal L. Lund	Director
<u>/s/ TRACY MACK-ASKEW</u> Tracy Mack-Askew	Director
<u>/s/ S. MAE FUJITA NUMATA</u> S. Mae Fujita Numata	Director
<u>/s/ ELIZABETH W. SEATON</u> Elizabeth W. Seaton	Director
<u>/s/ JANINE T. TERRANO</u> Janine T. Terrano	Director

CERTIFICATION

I, Clint E. Stein, certify that:

1. I have reviewed this annual report on Form 10-K of Columbia Banking System, 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 the 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.

/s/ CLINT E. STEIN

Clint E. Stein
President and
Chief Executive Officer

Date: February 24, 2023

CERTIFICATION

I, Aaron James Deer, certify that:

1. I have reviewed this annual report on Form 10-K of Columbia Banking System, 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 the 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.

/s/ AARON JAMES DEER

Aaron James Deer Executive Vice President and
Chief Financial Officer

Date: February 24, 2023

**CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

In connection with the Annual Report of Columbia Banking System, Inc. (the “Company”) on Form 10-K for the period ended December 31, 2022 as filed with the Securities and Exchange Commission on the date hereof (the “Report”), we, Clint E. Stein, President and Chief Executive Officer, and Aaron James Deer, Executive Vice President and Chief Financial Officer, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

- (1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
- (2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ CLINT E. STEIN

**Clint E. Stein
President and
Chief Executive Officer
Columbia Banking System, Inc.**

/s/ AARON JAMES DEER

**Aaron James Deer
Executive Vice President and
Chief Financial Officer
Columbia Banking System, Inc.**

Dated: February 24, 2023