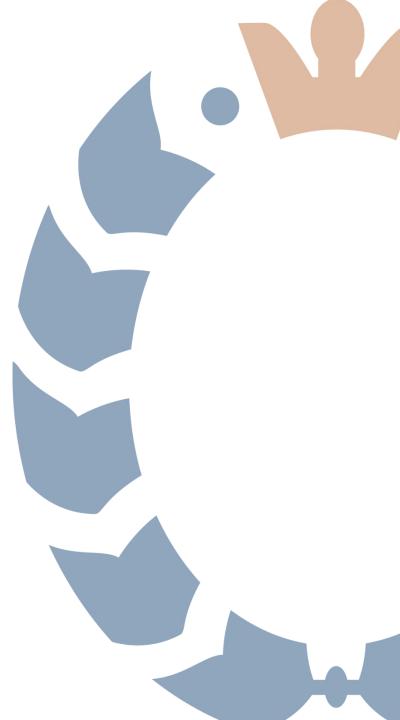


Investor Presentation

Additional Information — For the First Quarter 2023



"Safe Harbor" Statement

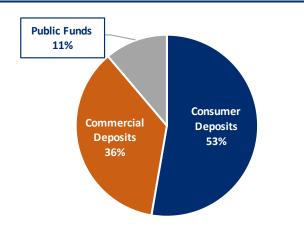
Under the Private Securities Litigation Reform Act of 1995

"Safe Harbor" Statement under the Private Securities Litigation Reform Act of 1995: This presentation contains, and the remarks by Prosperity's management at the annual meeting may contain, forward-looking statements within the meaning of the federal securities laws, including Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. From time to time, oral or written forward-looking statements may also be included in other information released to the public. Such forward-looking statements are typically, but not exclusively, identified by the use in the statements of words or phrases such as "aim," "anticipate," "believe," "estimate," "expect," "goal," "guidance," "intend," "is anticipated," "is expected," "is intended," "objective," "plan," "projected," "projection," "will affect," "will be," "will continue," "will decrease," "will grow," "will impact," "will increase," "will incur," "will reduce," "will remain," "will result," "would be," variations of such words or phrases (including where the word "could," "may," or "would" is used rather than the word "will" in a phrase) and similar words and phrases indicating that the statement addresses some future result, occurrence, plan or objective. Forward-looking statements include all statements other than statements of historical fact, including forecasts or trends, and are based on current expectations, assumptions, estimates and projections about Prosperity Bancshares and its subsidiaries. These forward-looking statements may include information about Prosperity's possible or assumed future economic performance or future results of operations, including future revenues, income, expenses, provision for loan losses, provision for taxes, effective tax rate, earnings per share and cash flows and Prosperity's future capital expenditures and dividends, future financial condition and changes therein, including changes in Prosperity's loan portfolio and allowance for loan losses, changes in deposits, borrowings and the investment securities portfolio, future capital structure or changes therein, as well as the plans and objectives of management for Prosperity's future operations, future or proposed acquisitions, including the pending transactions with First Bancshares and Lone Star, the future or expected effect of acquisitions on Prosperity's operations, results of operations, financial condition, and future economic performance, statements about the anticipated benefits of each of the pending transactions, and statements about the assumptions underlying any such statement, as well as expectations regarding the effects of the COVID-19 pandemic on Prosperity's operating income, financial condition and cash flows. These forward-looking statements are not guarantees of future performance and are subject to risks and uncertainties, many of which are outside of Prosperity's control, which may cause actual results to differ materially from those expressed or implied by the forward-looking statements. These risks and uncertainties include but are not limited to whether Prosperity can: successfully identify acquisition targets and integrate the businesses of acquired companies and banks, including First Bancshares and Lone Star; continue to sustain its current internal growth rate or total growth rate; provide products and services that appeal to its customers; continue to have access to debt and equity capital markets; and achieve its sales objectives. Other risks include, but are not limited to: the possibility that credit guality could deteriorate; actions of competitors; changes in laws and regulations (including changes in governmental interpretations of regulations and changes in accounting standards); the possibility that the anticipated benefits of an acquisition transaction, including the pending transactions with First Bancshares and Lone Star, are not realized when expected or at all, including as a result of the impact of, or problems arising from, the integration of two companies or as a result of the strength of the economy and competitive factors generally; a deterioration or downgrade in the credit guality and credit agency ratings of the securities in Prosperity's securities portfolio; customer and consumer demand, including customer and consumer response to marketing; effectiveness of spending, investments or programs; fluctuations in the cost and availability of supply chain resources; economic conditions, including currency rate, interest rate and commodity price fluctuations; the effect, impact, potential duration or other implications of the COVID-19 pandemic; and weather. Prosperity disclaims any obligation to update such factors or to publicly announce the results of any revisions to any of the forward-looking statements included herein to reflect future events or developments. These and various other factors are discussed in Prosperity's Annual Report on Form 10-K for the year ended December 31, 2022, and other reports and statements Prosperity has filed with the Securities and Exchange Commission ("SEC"). Copies of the SEC filings for Prosperity may be downloaded from the Internet at no charge from http://www.prosperitybankusa.com.

Deposit Base Detail

- Granular deposit base with \$27.0 billion in total deposits and over ٠ 786,000 deposit accounts
- Average account size is ~\$34,000 ٠
- 70.1% of all deposits are FDIC insured or are secured by our bond ٠ portfolio
 - In the call report, these are classified as "Preferred ٠ Deposits"
- Consumer accounts make up 53% of the deposits by dollar volume ٠ and 85% of the deposits by number of accounts

Account Type by Dollar Amount (\$)



Account Type by Number of Accounts (#)

FDIC Insured & Secured Deposits

\$ in millions **Public Funds** 1% Uninsured Deposits & Unsecured Deposits 29.9% \$8.082 70.1% of Secured Deposits (Public Funds): 3,107 11.5% deposits are Commercial FDIC Insured Deposits: 15,815 58.6% insured or secured Deposits **Total Deposits:** \$27,004 100.0% 14% Consumer Deposits Number of Deposit Accounts: 786,467 85% Average Deposit Account Size (\$ actual): \$34,336 PR

Deposit Flows in Q1 2023

- Deposits decreased by \$1.5 billion, or 5.4% in Q1 2023:
 - Estimate that ~\$857 million, or 3.0%, moved outside of the bank due to customers rate shopping with excess funds
 - Estimate that ~\$436 million, or 1.5%, was used to pay estimated federal income and state property taxes based upon historical weighted average core deposit decreases in the month of January⁽¹⁾
 - \$236 million, or 0.9% moved into Prosperity Bank's Wealth Management Department
- \$959 million, or 63%, of the \$1.5 billion in deposit outflows occurred before March 10
- Opened over 1,000 net accounts between March 10 and March 31, 2023
- Did not bring in any brokered or reciprocal deposits

Sources of Liquidity

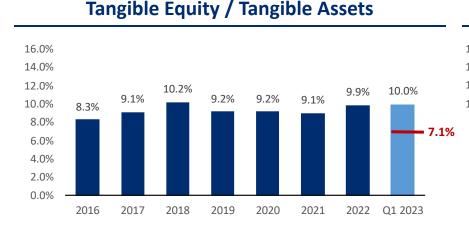
- Prosperity has enough liquidity to cover all uninsured & unsecured deposits with \$4.1 billion left over
 - Represents a coverage ratio of 151%
- Ability to borrow up to \$14.7 billion dollars on established lines at the Federal Home Loan Bank (FHLB), the Federal Reserve Discount Window and others
- Additional annual liquidity from balance sheet more than enough to fund loan growth and support other initiatives
 - Annual projected cash flows from the securities portfolio estimated at \$2.2 billion
 - The loan portfolio has an average life of 3.1 years, with annual projected cash flows of \$5.0 billion
- Pending bank acquisitions will bring over an additional ~\$400 million in cash and AFS securities that can be used to pay down FHLB borrowings

Total liquidity available as a % of uninsured / unsecured deposits:	151%	
Total liquidity available in excess of uninsured / unsecured deposits:	\$4,083	
Total uninsured / unsecured deposits:	\$8,082	
Total Liquidity Available:	\$12,165	
Less: Total Borrowed:	\$3,365	
Total Access to Liquidity:	\$15,530	
Other Lines Available:	\$499 -	
Federal Reserve Discount Window:	\$2,976	in 1 day
Federal Home Loan Bank:	\$11,181	> accessib
Securities Held Available for Sale:	\$469	97%
Cash on Hand:	\$405 ~	\mathbf{i}

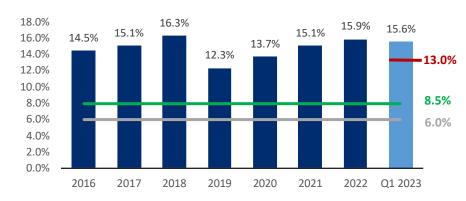
Sources of Liquidity as of March 31, 2023

Well Capitalized

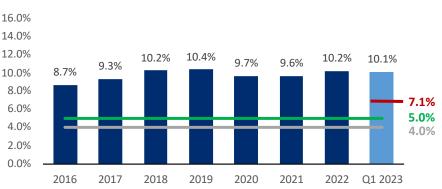
Even with Unrealized Losses in Securities Portfolio



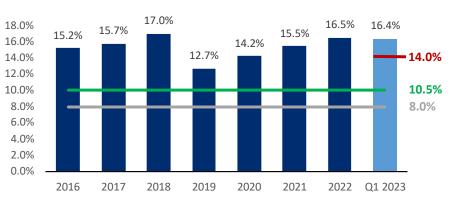
Tier 1 Risk-Based Ratio



Tier 1 Leverage Ratio



Total Risk-Based Ratio



FDIC Capital Adequacy Definition of "Well Capitalized"

- Minimum Required for Capital Adequacy Purposes
- Adjusted for Tax-Effected Unrealized Losses in Securities Portfolio

Source: Company Documents

