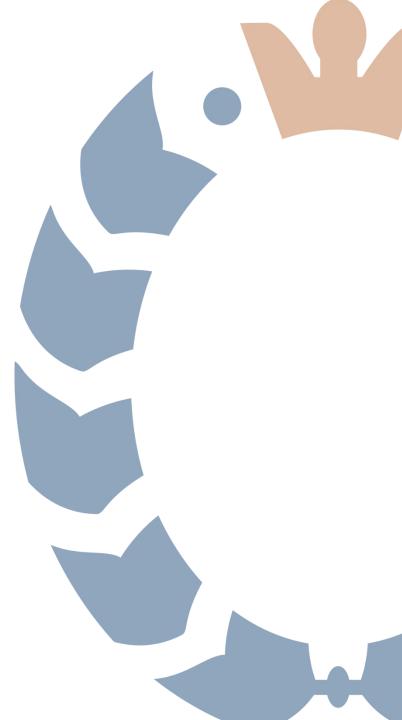


Investor Presentation

— Third Quarter 2021 -



"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 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. Forward-looking statements are typically, but not exclusively, identified by the use in the statements of words or phrases such as "aim." "anticipate." "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, future capital structure or changes therein, as well as the plans and objectives of management for Prosperity's future operations, future or proposed acquisitions, 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 the proposed transaction, 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 forwardlooking 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; 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 quality 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, 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 quality 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. These and various other factors are discussed in Prosperity Bancshares' Annual Report on Form 10-K for the year ended December 31, 2020 and other reports and statements Prosperity Bancshares has filed with the Securities and Exchange Commission ("SEC"). Copies of the SEC filings for Prosperity Bancshares may be downloaded from the Internet at no charge from http://www.prosperitybankusa.com.

Third Quarter Highlights

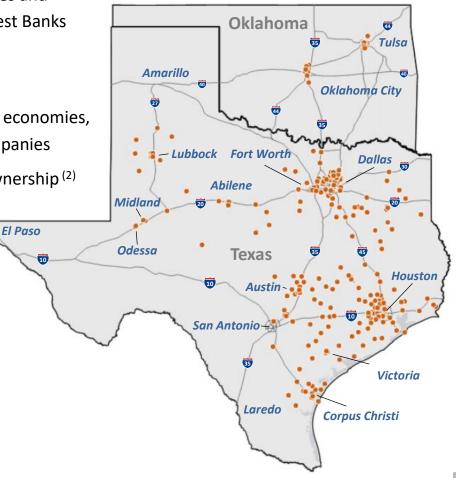
- Net income of \$128.6 million and earnings per share (diluted) of \$1.39 for three months ended September 30, 2021
- Assets of \$36.5 billion, total loans of \$19.0 billion, and deposits of \$29.5 billion at September 30, 2021
- Common equity tier 1 ratio of 14.84% and leverage ratio of 9.55% at September 30, 2021
- Loans, excluding Warehouse Purchase Program and SBA Paycheck Protection Program loans, increased 5.3% on an annualized basis during the third quarter 2021
- Deposits increased 4.7% on an annualized basis during the third quarter 2021
- Nonperforming assets to average earning assets remain low at 0.11% or \$36.5 million for the third quarter 2021
- Net charge-offs of \$15.7 million for the third quarter 2021 were partially offset by PCD recoveries of \$15.2 million released to the general reserve
- Allowance for credit losses on loans and on off-balance sheet credit exposure of \$317.1 million
- Allowance for credit losses to total loans, excluding Warehouse Purchase Program and SBA Paycheck Protection Program loans, equal to 1.73%
- Efficiency ratio of 42.3% for the third quarter 2021
- Repurchased 767,134 shares during the third quarter 2021
- Increased cash dividend 6.1% to \$0.52 for the fourth quarter 2021

Strong Presence in Texas and Oklahoma

- A Texas-based financial holding company with \$36.5 billion in total assets
- Ranked the 2nd Best Bank in America in 2021 by Forbes and has been ranked in the Top 10 of Forbes America's Best Banks since 2010
- Ranked #3 in deposit market share in Texas ⁽¹⁾
- Texas and Oklahoma continue to benefit from strong economies, and are home to 52 Fortune 500 headquartered companies
- Shareholder driven with 4.2% fully diluted insider ownership⁽²⁾
- Successful completion of 43 acquisitions (whole bank, branch and failed bank transactions)

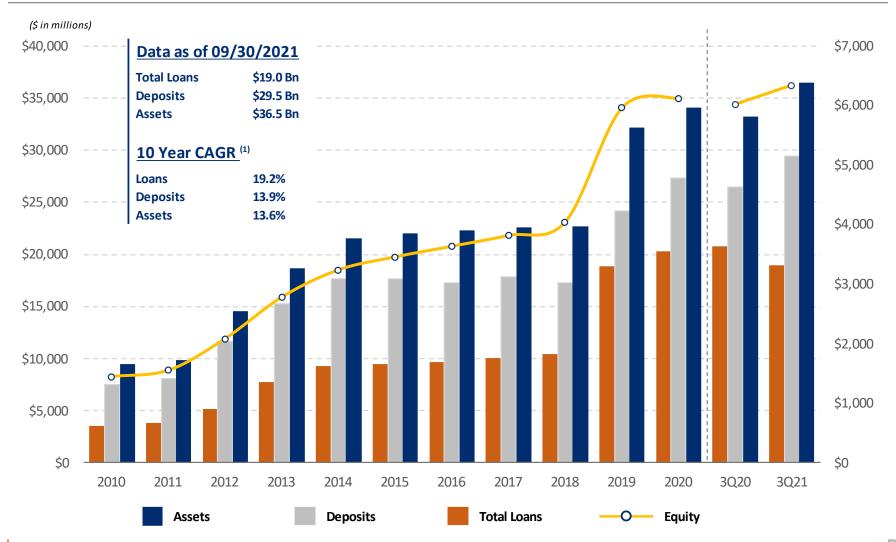
273 Full-Service Locations

- 16 in Bryan/College Station Area
- 6 in Central Oklahoma Area
- 29 in Central Texas Area
- 63 in Dallas/Fort Worth Area
- 22 in East Texas Area
- 65 in Houston Area
- 30 in South Texas Area
- 8 in Tulsa Area
- 34 in West Texas Area



Per FDIC; Includes Texas headquartered commercial banks; Deposits as of 6/30/2021
 Per proxy statement (Form DEF 14A) filed on 3/15/2021

Balance Sheet Summary

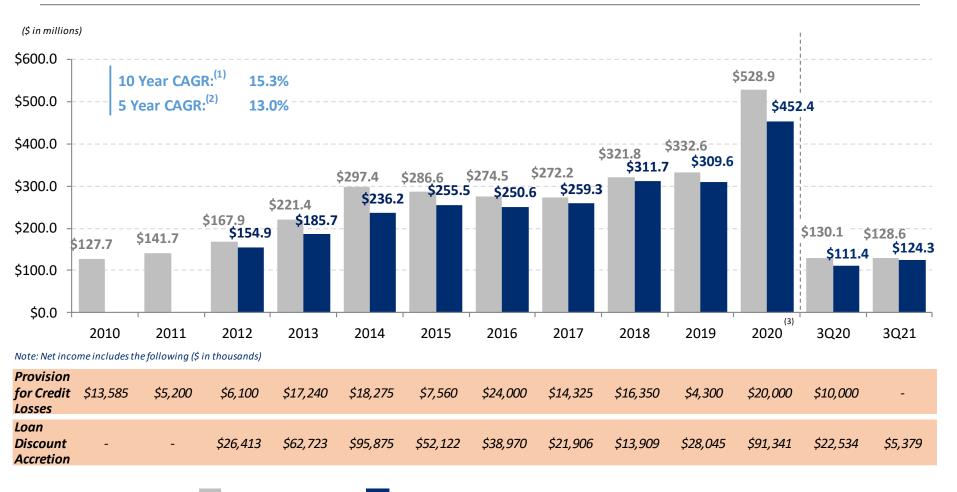


Source: Company Documents

5

(1) Represents the Compound Annual Growth Rate from 12/31/2010 – 12/31/2020

Net Income



Net Income

Net Income (Excluding Purchase Accounting Adjustments)

Source: Company Documents

6

(1) Represents the Compound Annual Growth Rate of net income from 12/31/2010 – 12/31/2020

(2) Represents the Compound Annual Growth Rate of net income from 12/31/2015 – 12/31/2020

(3) Includes NOL tax benefit of \$20.145 million related to the CARES Act

Earnings Per Share



EPS

Core EPS (Excluding Purchase Accounting Adjustments)

Source: Company Documents

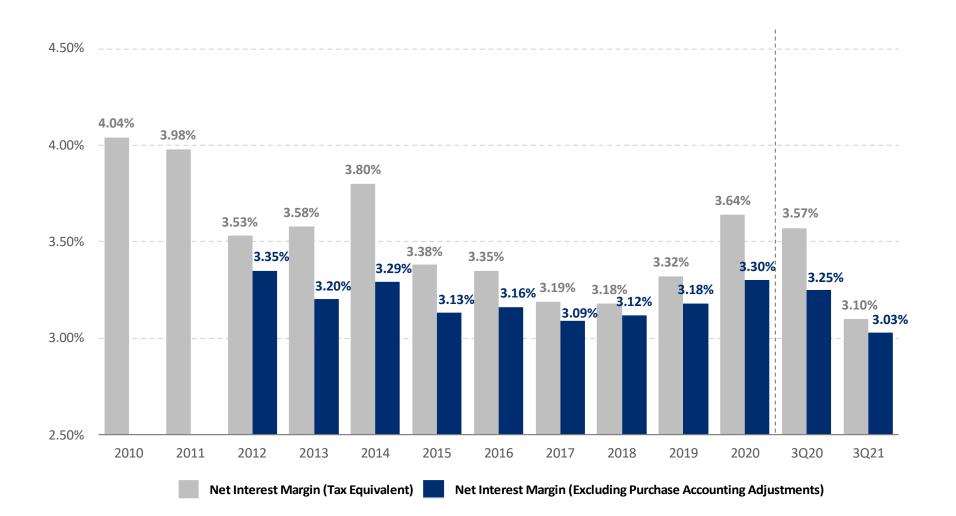
7

(1) Represents the Compound Annual Growth Rate for EPS from 12/31/2010 – 12/31/2020

(2) Represents the Compound Annual Growth Rate for EPS from 12/31/2015 – 12/31/2020

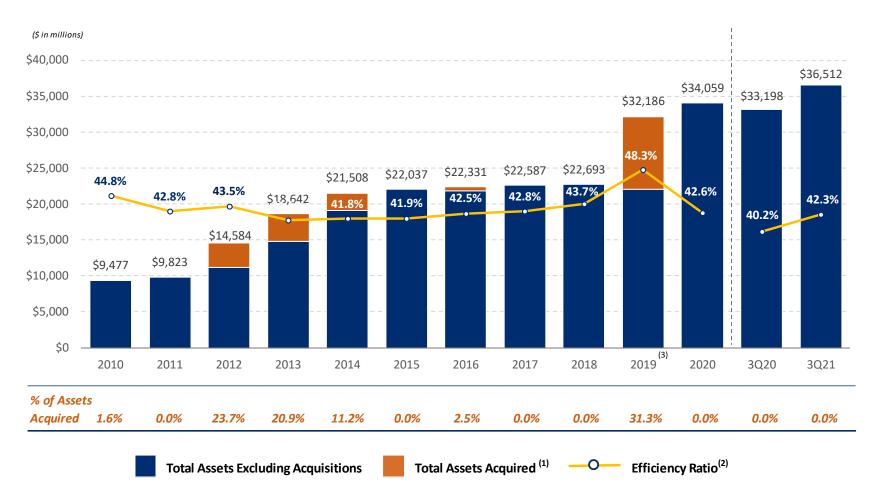
(3) Includes NOL tax benefit of \$20.145 million related to the CARES Act

Net Interest Margin



PB INSTED NYSE

Acquisitions & Efficiency Ratio



Source: Company Documents

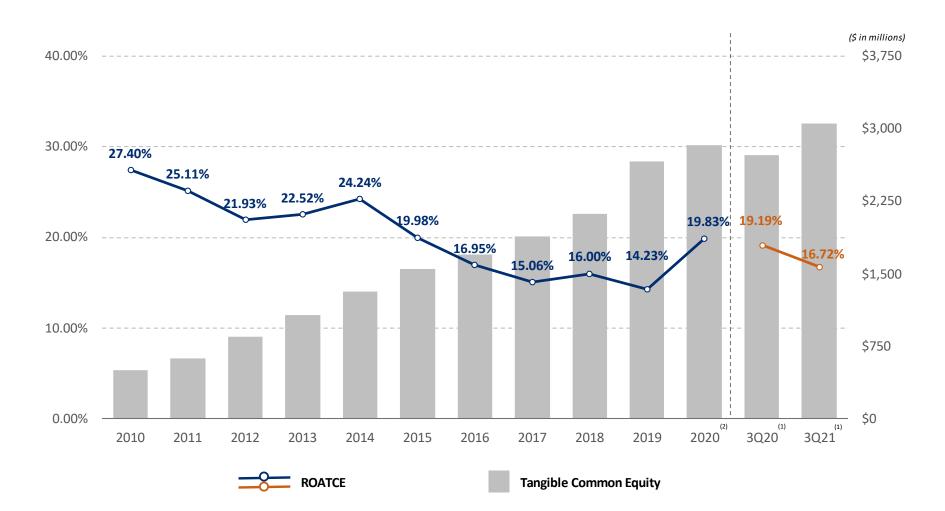
9

(1) Representative of target assets at closing

(2) Calculated by dividing total noninterest expense, excluding credit loss provisions, by net interest income plus noninterest income, excluding net gains and losses on the sale or write down of assets and securities. Additionally, taxes are not part of this calculation.

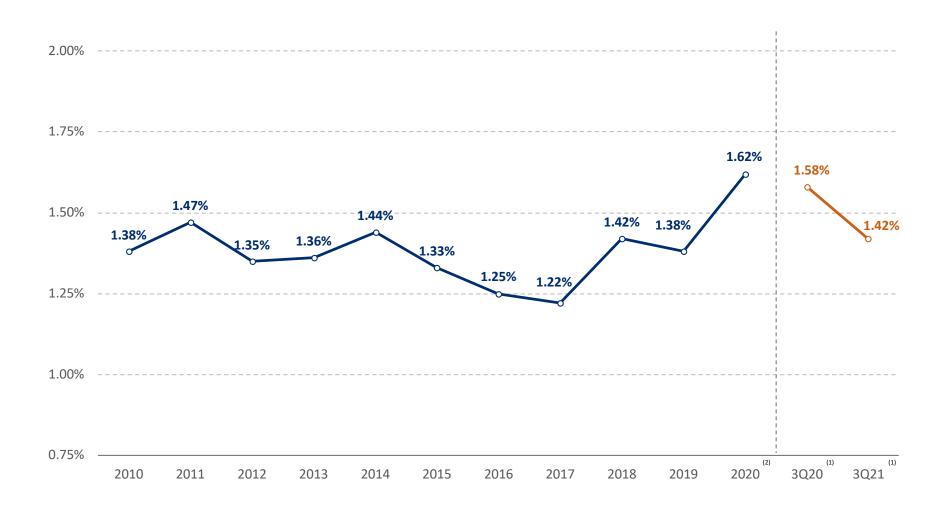
(3) Ratio impacted by the merger with LegacyTexas Financial

Return on Average Tangible Common Equity





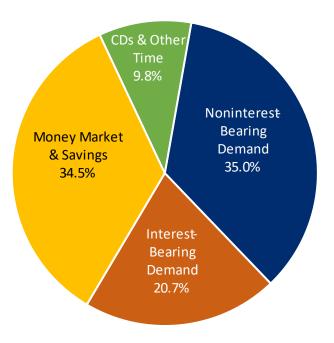
Return on Average Assets





Deposit Composition

As of September 30, 2021 (\$ in millions)



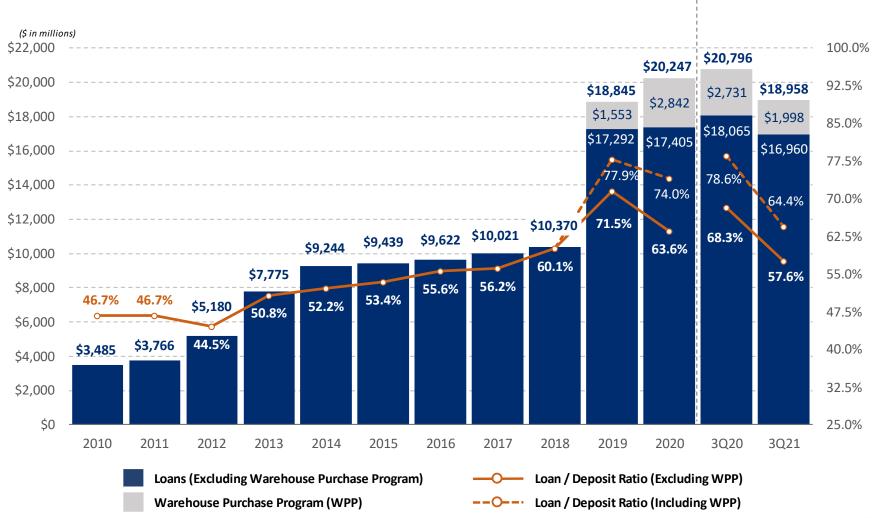
	\$mm	Cost (%) ⁽¹⁾
Noninterest-Bearing Demand	\$10,326	0.00%
Interest-Bearing Demand	\$6,089	0.24%
Money Market & Savings	\$10,159	0.18%
CDs & Other Time	\$2,878	0.47%

Total Deposits: \$29.5Bn

Total Cost of Deposits: 0.16%⁽¹⁾ Cost of Interest-Bearing Deposits: 0.24%⁽¹⁾



Loan Growth

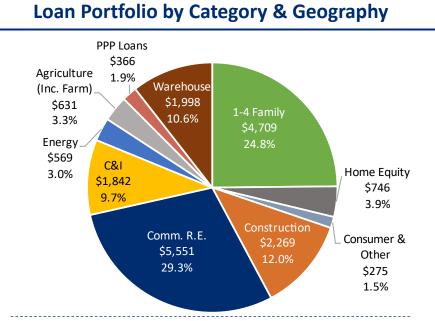


13

PB IISTED NYSE

Loan Portfolio Overview

As of September 30, 2021 (\$ in millions)



Loans By Area	<u>Amount⁽²⁾⁽⁴⁾</u>	<u>% of Total</u>
Bryan / College Station	\$681	4.0%
Central Oklahoma	\$647	3.8%
Central Texas	\$1,938	11.5%
Dallas / Ft. Worth	\$6,376	37.7%
East Texas	\$562	3.4%
Houston	\$3,759	22.2%
South Texas	\$1,340	7.9%
Tulsa	\$570	3.4%
West Texas	\$1,032	6.1%

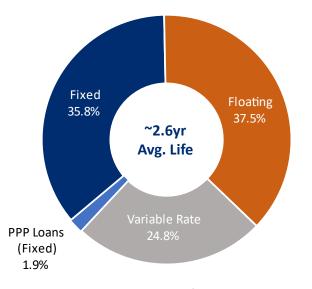
Source: Company Documents

Data for the three months ended September 30, 2021 (1)

Excludes \$53 million in loans assigned to the Corporate Group (2)

Core yield excludes purchase accounting adjustments Excludes Warehouse Purchase Program (WPP) loans

Loans by Rate Structure



Total Loans: \$19.0Bn Loans HFI (Excl. WPP): \$17.0Bn

Yield on Total Loans: 4.48%⁽¹⁾ Yield on Loans HFI (Excl. WPP): 4.62%⁽¹⁾ Core Yield on Loans HFI (Excl. WPP): 4.49%⁽¹⁾⁽³⁾



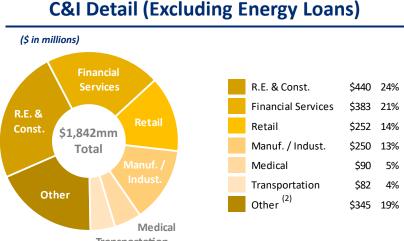
(3) (4)

Loan Portfolio Detail

As of September 30, 2021 (\$ in millions)

Portfolio Commentary

- 31% of commercial real estate is owner occupied •
- CRE and construction loans conservatively • underwritten to cost of collateral
- Hotel loans equal to ~2% of total loans •
- Restaurant loans equal to ~1% of total loans •



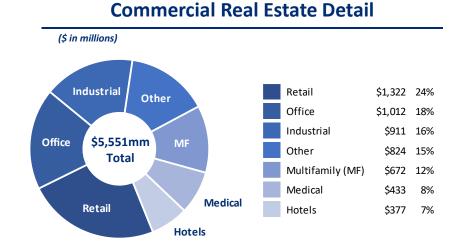
Transportation

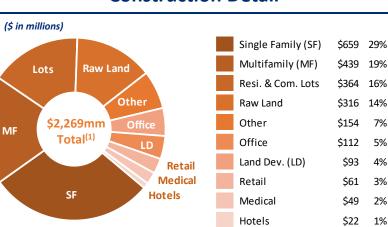
Source: Company Documents

15

(2)

Total includes a net unaccreted discount of (\$83,000) not shown in graph (1) Includes State & Political loans

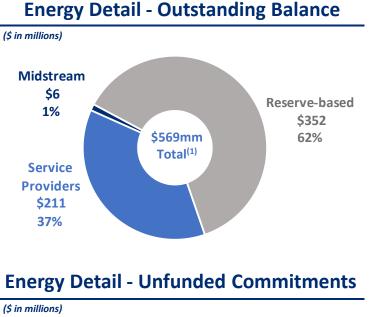




Construction Detail

Energy Portfolio Detail

As of September 30, 2021 (\$ in millions)





Portfolio Commentary

- Total energy loan loss reserves of 4.4%, or \$24.8 million (excluding fair value marks)⁽¹⁾
- \$59.3 million, or 10.4% of energy loans, are subject to fair value marks of \$1.2 million in addition to general and specific loan loss reserves
- Portfolio company-led with no Shared National Credits (SNC)
- Portfolio focused on lending on proven producing reserves and therefore not dependent on ongoing development
- Acquired oil portfolio is 86.3% hedged during 2021 at a weighted average price of \$42.28 and 79.2% hedged during 2022 at a weighted average price of \$42.63
- Acquired gas portfolio is 59.4% hedged during 2021 at a weighted average price of \$2.47 and 48.6% hedged during 2022 at a weighted average price of \$2.54

Changes to Allowance for Credit Losses

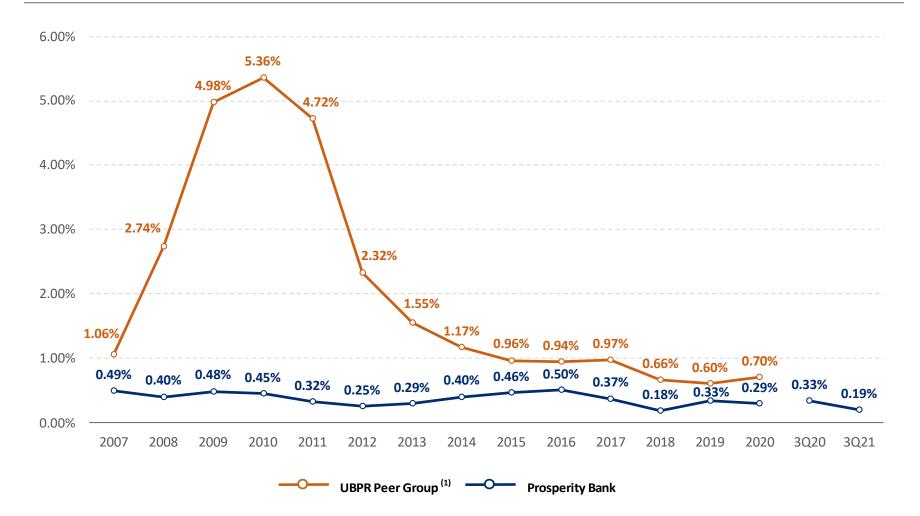
(\$ in millions)

1.89% ACL to Total Loans ⁽¹⁾⁽²⁾					1.73% ACL to Total Loans ⁽¹⁾⁽²⁾
\$302.9			\$3.2	\$12.0	
Allowance for Credit Losses Allowance for Unfunded Commitments (Other Liabilities)	 (\$15.7) Net Charge-offs \$4.6 million related to PCD loans \$10.8 million related to one acquired loan 	 (\$15.2) PCD recoveries \$0.9 million excess related to PCD loans charged off during the third quarter \$14.3 million released related to resolved PCD loans without any charge offs during the third quarter 	 Outstanding balances Historical loss rates Non-PCD specific reserves 	 Net increased reserve related to changes in macro-economic conditions and qualitative economic outlook 	\$287.2 ▲ Allowance for Credit Losses Allowance for Unfunded Commitments (Other Liabilities) ▼
\$29.9					\$29.9
Q2 2021 ACL	Portfolio Changes	Portfolio Changes	Portfolio Changes	Environmental Outlook	Q3 2021 ACL



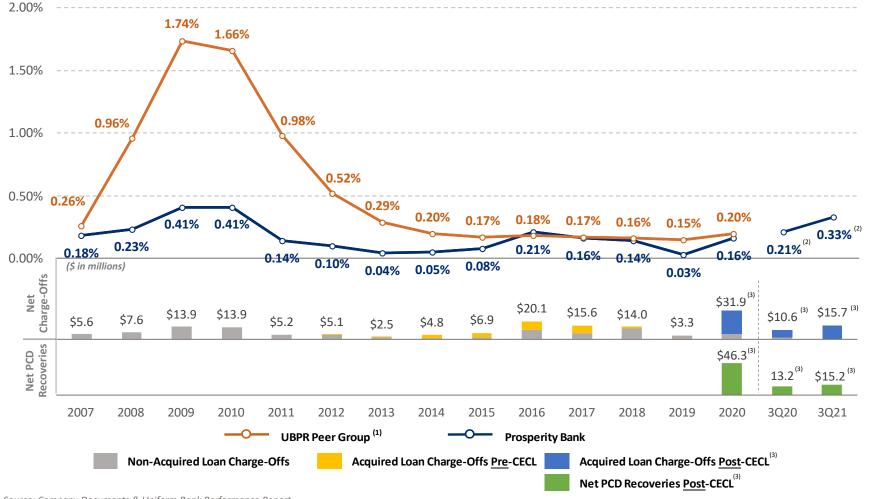
Excludes Warehouse Purchase Program (WPP) and SBA Paycheck Protection Program (PPP) loans
 Excludes allowance for credit losses on off-balance sheet credit exposures (allowance for unfunded commitments)

Asset Quality NPAs / Loans + OREO



Source: Company Documents & Uniform Bank Performance Report Note: NPAs include loans past due 90 days and still accruing (1) UBPR = Uniform Bank Performance Report; Peer Group 2 (94 banks) – Insured commercial banks having assets between \$10 billion and \$100 billion

Asset Quality *Net Charge-Offs / Average Loans*



Source: Company Documents & Uniform Bank Performance Report Note: NPAs include loans past due 90 days and still accruing

19

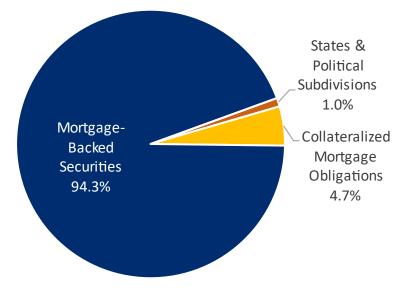
- (1) UBPR = Uniform Bank Performance Report; Peer Group 2 (94 banks) Insured commercial banks having assets between \$10 billion and \$100 billion
- (2) Interim period net charge-off ratios shown on an annualized basis
- (3) Reflects all charge-offs and recoveries on acquired loans in accordance with CECL accounting practices; Prior to the adoption of CECL in the first quarter of 2020, PCD loans were classified as Purchased Credit Impaired (PCI) loans and their assigned fair-value marks were netted against the outstanding loan balance with a charge-off only being recorded when the loss exceeded the amount of fair-value marks remaining.

PB

NYSE

Securities Portfolio Detail

As of September 30, 2021 (\$ in millions)



95.4% Held to Maturity 4.6% Available for Sale

	\$mm
Mortgage-Backed Securities	\$11,901
Collateralized Mortgage Obligations	\$596
States & Political Subdivisions	\$130
	Collateralized Mortgage Obligations

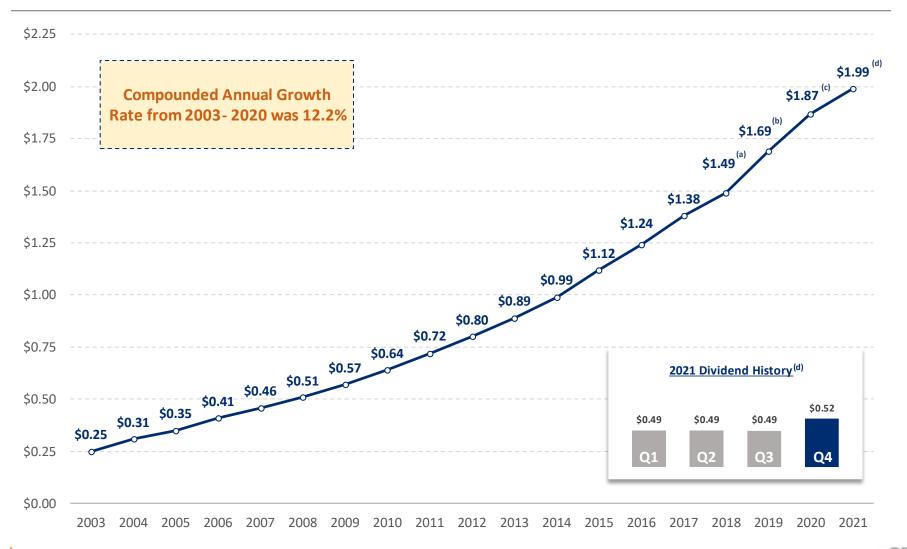
Total Securities: \$12.6Bn

Yield on Securities: 1.50%⁽¹⁾ Duration: ~3.9 Yrs.⁽²⁾ Avg. Yearly Cash Flow: ~\$2.6Bn





Dividend History



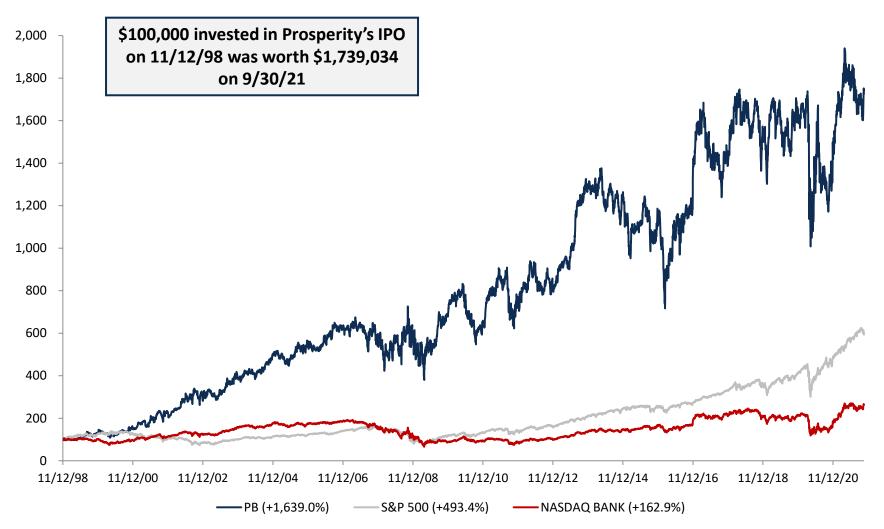
21

2018 dividend consists of \$0.36 per share declared in 10,2018, 20,2018, 30,2018 and \$0.41 per share declared in 40,2018 2019 dividend consists of \$0.41 per share declared in 10,2019, 20,2019, 30,2019 and \$0.46 per share declared in 40,2019 2020 dividend consists of \$0.46 per share declared in 01,2020, 20,2020, 30,2020 and \$0.49 per share declared in 40,2020 2021 dividend consists of \$0.49 per share declared in 01,2021, 20,2021, 30,2021 and \$0.52 per share declared on October 20, 2021, to shareholders of record as of December 15, 2021

NYSE

Total Return Performance

IPO (November 12, 1998) to September 30, 2021





Presence in Fast-Growing Markets

Positioned in Strong Markets



- Today, Texas is the 2nd largest state in the U.S by population with over 29 million residents
- Ranked #3 on the Fortune 500 list with 49 headquartered companies in 2021
- Ranked #1 state for business for the 9th consecutive time by U.S. corporate executives in an International Economic Development Council survey
- Oklahoma City and Tulsa MSAs comprise over 50% of the state's population
- Oklahoma is home to three of the 2021 Fortune 500 Companies
- 3rd largest producing state for natural gas and for net electricity generation from wind; 4th largest producing state for crude oil
- Oklahoma is one of the top 5 producers of wheat in the United States

Top 10 Fastest Growing MSAs in the U.S. ⁽¹⁾

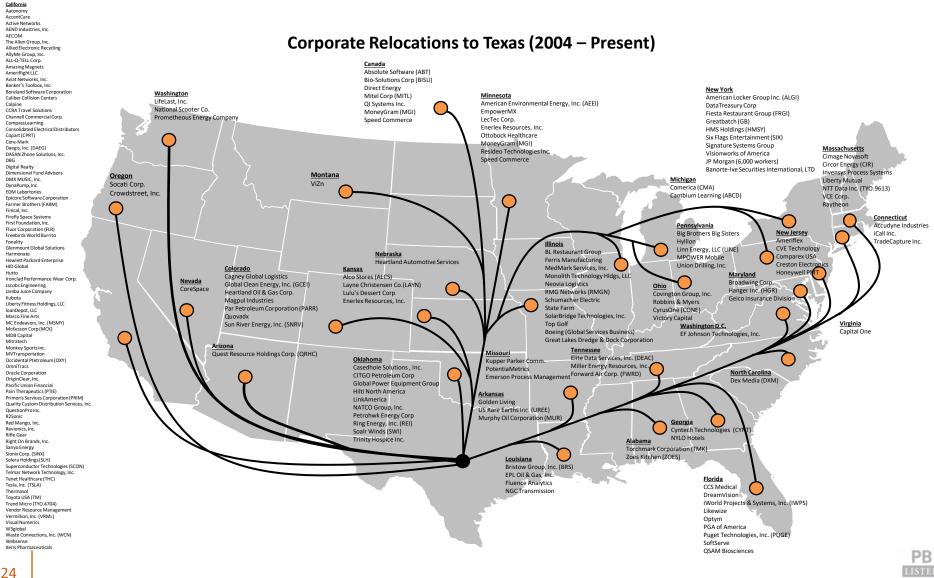
	Metropolitan Statistical Area	Prosperity Presence	Prosperity Deposits (\$mm)	2021 - 2026 Population Growth
1	Austin-Round Rock-Georgetown, TX	\checkmark	\$1,401	8.5%
2	San Antonio-New Braunfels, TX	\checkmark	\$493	7.6%
3	Houston-The Woodlands-Sugar Land, TX	\checkmark	\$6,444	7.6%
4	Dallas-Fort Worth-Arlington, TX	\checkmark	\$8,335	7.5%
5	Raleigh-Cary, NC			7.3%
6	Orlando-Kissimmee-Sanford, FL			7.1%
7	Denver-Aurora-Lakewood, CO			7.0%
8	Phoenix-Mesa-Chandler, AZ			6.9%
9	Las Vegas-Henderson-Paradise, NV			6.8%
10	Seattle-Tacoma-Bellevue, WA			6.8%

- Presence in the top four fastest growing MSAs in the United States
- The South is home of 9 of the 15 fastest growing cities with populations greater than 50,000 in the United States



Source: S&P Global, Worldpopulationreview.com, Statista, U.S. Energy Information Administration, and Forbes.
 Includes MSAs with greater than one million in total population. Deposit data as of 6/30/2021.

Corporate Relocations to Texas



Houston Market Highlights

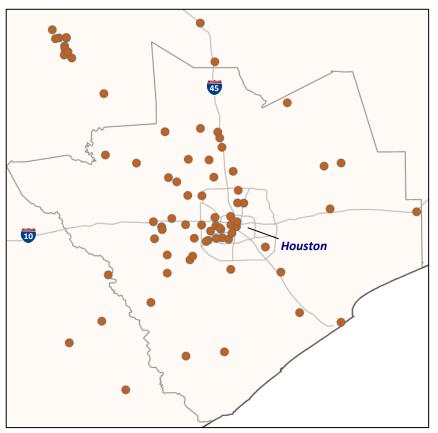
Market Highlights

- Houston MSA is the 5th largest in the United States by population with over 7.2 million residents
 - Population is expected to grow 7.6% from 2021 to 2026
- Houston is ranked 1st in average wage after adjusting for cost-of-living
- Headquarters to 24 Fortune 500 companies
 - Home to the Texas Medical Center the world's largest medical complex, and NASA's Johnson Space Center
 - Hewlett Packard Enterprise is moving its global headquarters to the Houston Area in 2022
 - The Port of Houston is ranked 1st in the U.S. in international waterborne tonnage and in total waterborne tonnage handled
- Houston was ranked as the 2nd fastest growing tech hubs during the pandemic

Select Fortune 500 Companies



Houston Franchise





Source: S&P Global, Houston.org, Bureau of Labor Statistics, Forbes.com, Port Houston, Greater Houston Partnership, Houston Properties. References to Houston refer to the Houston – The Woodlands – Sugar Land metropolitan statistical area.

Dallas/Ft. Worth Market Highlights

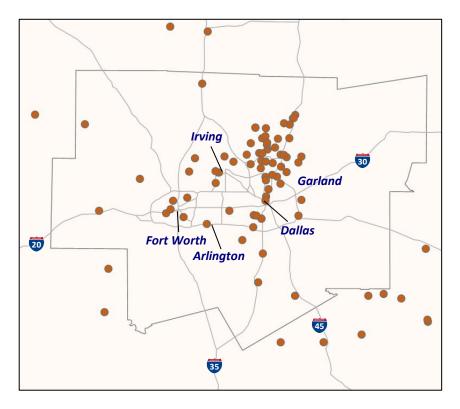
Market Highlights

- Dallas/Ft. Worth MSA is the 4th largest in the United States by population with over 7.7 million residents
 - Population is expected to grow 7.5% from 2021 to 2026
- As of August 2021, total nonfarm employment has increased 5.9% YoY, compared to the 12 month statewide increase of 5.6% and the nationwide increase of 4.4%
 - Unemployment rate is 4.6%, compared to 5.9% statewide, and 5.2% nationwide⁽¹⁾
- Among the top 12 largest MSAs by population, Dallas had the highest YoY increase in employment in the Professional Services sector and 3rd highest YOY increase in employment in the Financial Services sector
- Headquarters to 22 Fortune 500 companies
 - Ranked the second best job center in the U.S. for technology professionals in 2020

Select Fortune 500 Companies



Dallas / Ft. Worth Franchise



Source: Bureau of Labor Statistics, S&P Global, Dallasnews.com, Dallasforward.org, Computing Technology Industry Association (CompTIA), and Fortune.com. References to Dallas refer to the Dallas – Fort Worth – Arlington metropolitan statistical area.



Austin Market Highlights

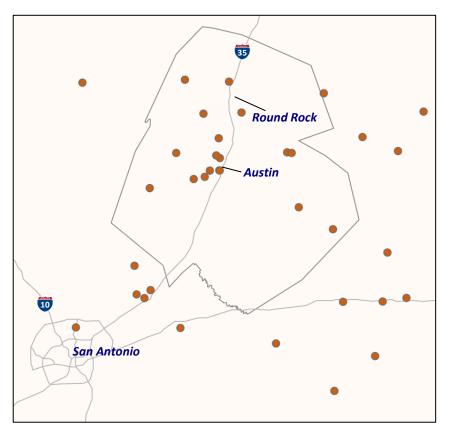
Market Highlights

- Ranked #5 place to live in the U.S. in 2021 by U.S. News and World Report
- Expected population growth of 8.5% through 2026, the highest of any MSA in the country
- Ranked as the best city in the U.S. for technology professionals and businesses
 - IT job growth is expected to expand 15% over the next 5 years
- As of August 2021, total nonfarm employment has increased 6.7% YoY, compared to the 12 month statewide increase of 5.6% and the nationwide increase of 4.4%
 - Unemployment rate is 3.8%, compared to 5.9% statewide and 5.2% nationwide⁽¹⁾
 - Employment in the Professional Services sector has increased 12.2% YoY, compared to 10.0% statewide
- 19 companies have begun operations and 29 companies expanded their existing operations in the Austin-Round Rock MSA in Q3 2021

Select Fortune 500 Companies



Austin Franchise Franchise



Source: Bureau of Labor Statistics, Forbes, U.S. News and World Report, Computing Technology Industry Association (CompTIA), Austin Chamber. References to Austin refer to the Austin – Round Rock – San Marcos metropolitan statistical area.

Unemployment data as of August 2021.

Contact Information

Corporate Headquarters

Prosperity Bank Plaza 4295 San Felipe Houston Texas 77027

281-269-7199 Telephone 281-269-7222 Fax

Investor Contacts

David Zalman Chairman & CEO 979-543-2200 david.zalman@prosperitybankusa.com

Cullen Zalman SVP – Banking & Corporate Activities 281-269-7176 cullen.zalman@prosperitybankusa.com

