GREEN BANCORP

First Quarter 2017
Financial Results Presentation

NASDAQ: GNBC
April 27, 2017

Today's Speakers

- Manny Mehos – Chairman and Chief Executive Officer
- Geoff Greenwade – President and Bank Chief Executive Officer
- Terry Earley – Chief Financial Officer
- Donald Perschbacher – Executive Vice President and Corporate Chief Credit Officer

Safe Harbor

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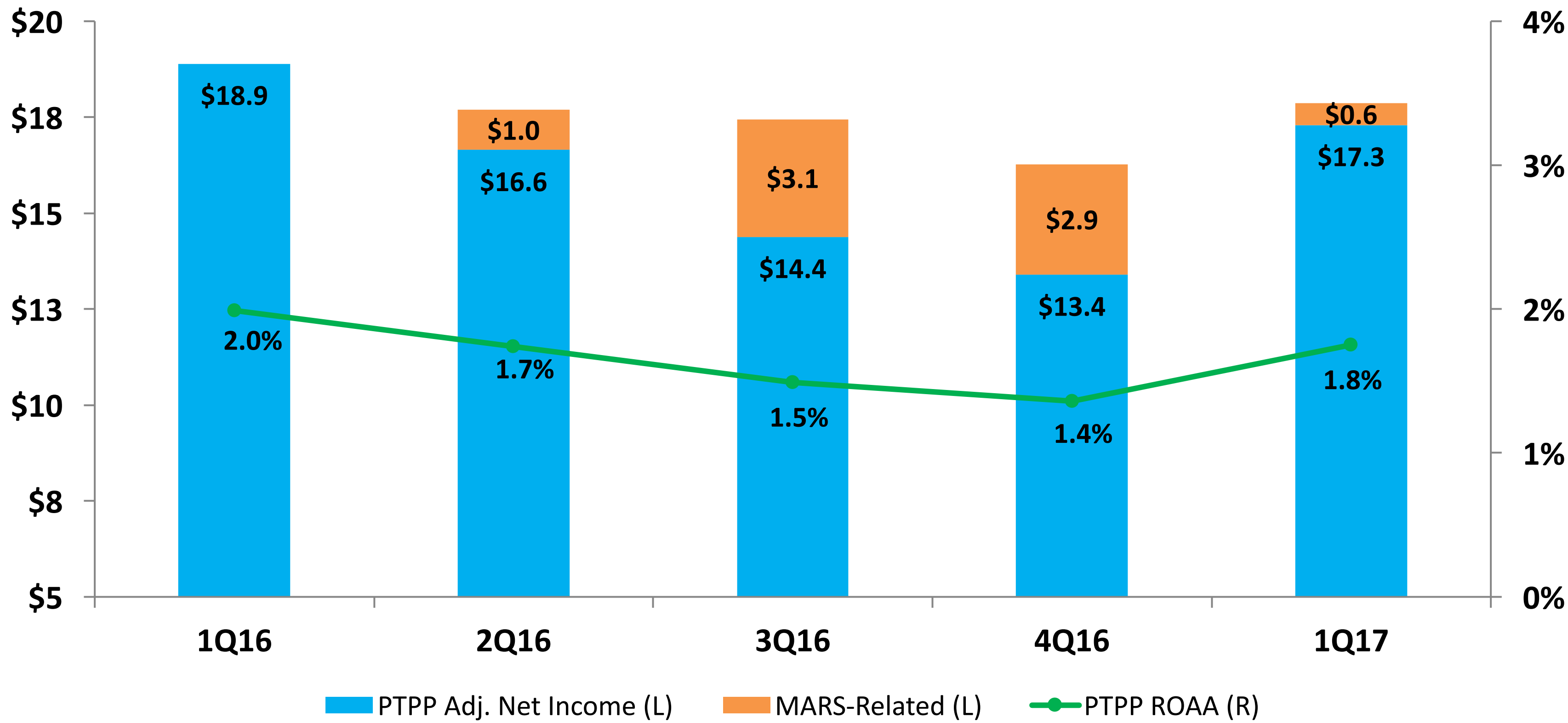
Annualized, pro forma, projected and estimated numbers are used for illustrative purpose only, are not forecasts and may not reflect actual results.

First Quarter 2017 Highlights

- First quarter 2017 net income totaled $7.2 million, or $0.19 per diluted common share
- Pre-tax pre-provision return on average assets of 1.75% for 1Q17, up from 1.36 in 4Q16
- Efficiency ratio of 54.64% for 1Q17, an improvement of 6.35% over the 4Q16 efficiency ratio of 60.99%
- Nonperforming assets were reduced by $18.8 million or 17.7% during 1Q17
- Total energy loans have been reduced to $93.7 million, comprised of $76.3 million in loans held for investment ("HFI") and $17.4 million in loans held for sale ("HFS"), at March 31, 2017 from $292.6 million at December 31, 2015
    - This represents energy exposure of 3.1% of total gross loans and 2.5% of loans held for investment ("HFI"), of which 0.5% is related to energy production loans
- Total deposits increased $41.4 million or 5.0% on an annualized basis in 1Q17, with the growth bringing non-interest bearing deposits to 20.7% of total deposits
- Tangible book value per common share increased $0.19 to $9.25

Pre-Tax Pre-Provision Adjusted Net Income

- 1Q17 PTPP Adj. Net Income was impacted by $0.4 million in MARS-related expenses in addition to a $0.1 million loss on disposition of loans held for sale



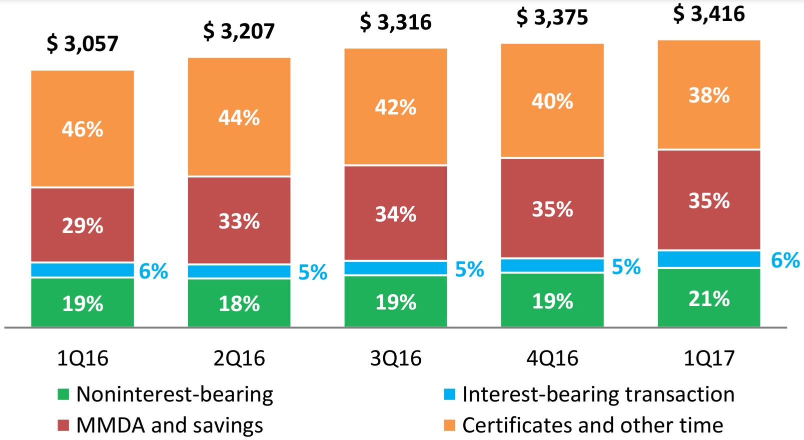
$ in millions

Deposits & Liquidity

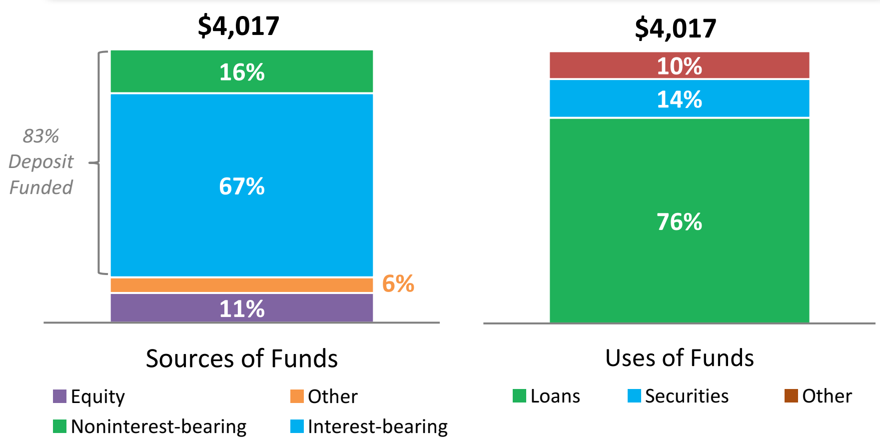
Highlights

- Deposits comprise ~83% of overall funding at March 31, 2017
  - Total deposits increased by $41 million or 1.2% during 1Q17, to $3.4 billion
  - Cost of deposits was 0.68% in 1Q17 compared to 0.66% in 4Q16
- Loans / deposits have averaged less than 100% over the past five fiscal years
- Non-interest bearing deposits were ~21% of deposits as of March 31, 2017, increasing by $55 million during 1Q17

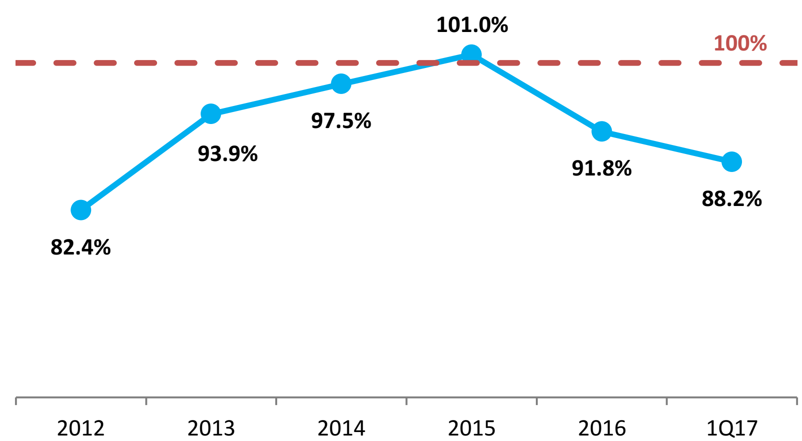
Deposit Composition



Funding Profile [1]



Loans / Deposits Ratio



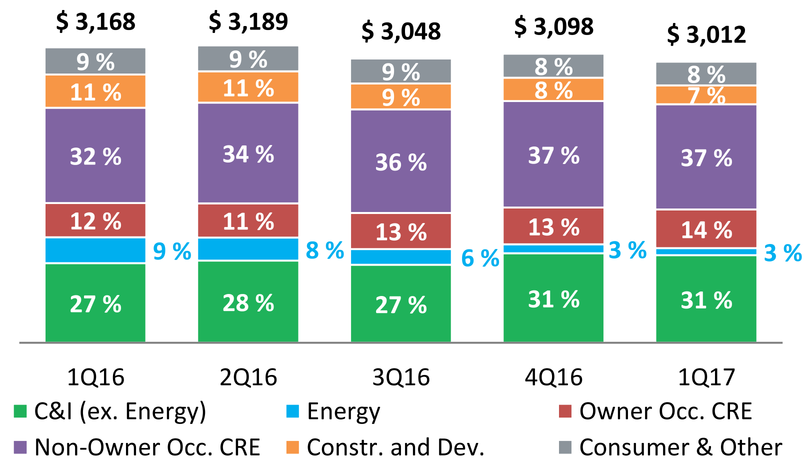
$ in millions, [1] represents the 1Q17 mix of funding sources and the average assets in which those funds are invested as a percentage of average total assets

Loan Portfolio Overview

Highlights

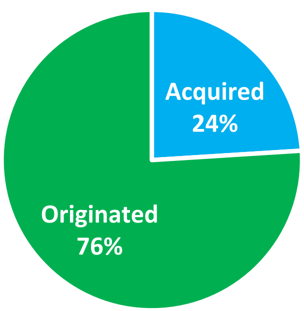
- Commercial-focused loan portfolio with 97% of the loan portfolio focused on non-energy loans
- In-footprint focus with portfolio primarily distributed across Houston (56%) and Dallas (21%)
- Diversified loan portfolio with no concentration to any single industry in excess of 10% of total loans
- Only 5% of the loan portfolio is classified
- Large number of lending relationships with no significant borrower concentration

Historical Loan Growth & Composition

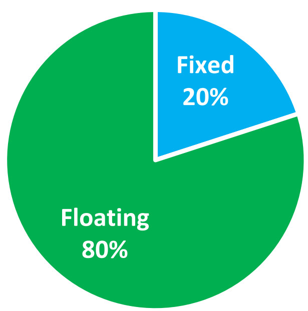


Loan Portfolio Detail as of March 31, 2017

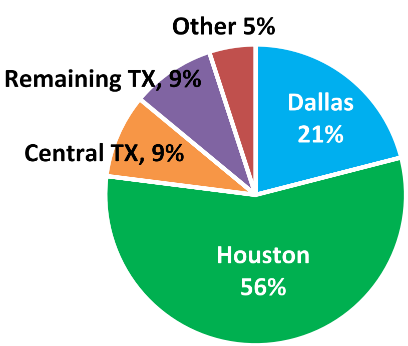
By Class



By Rate Sensitivity



By Regional Distribution*

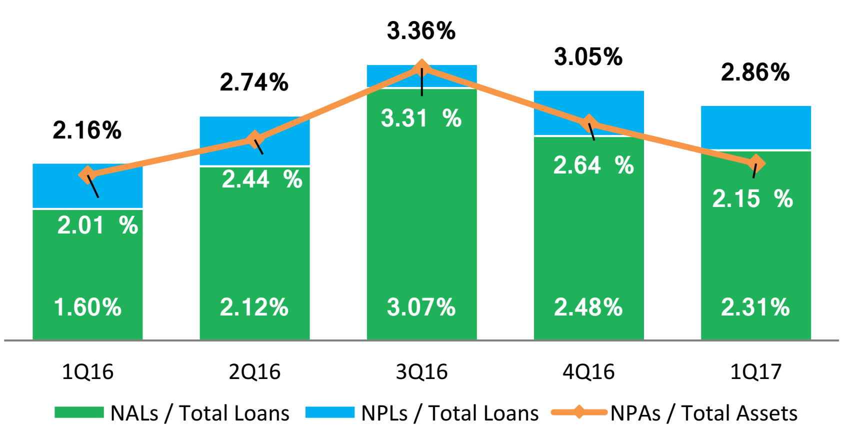


$ in millions, loan balance and corresponding percentages exclude HFS loans, (*) Central TX denotes Austin, San Antonio and San Marcos

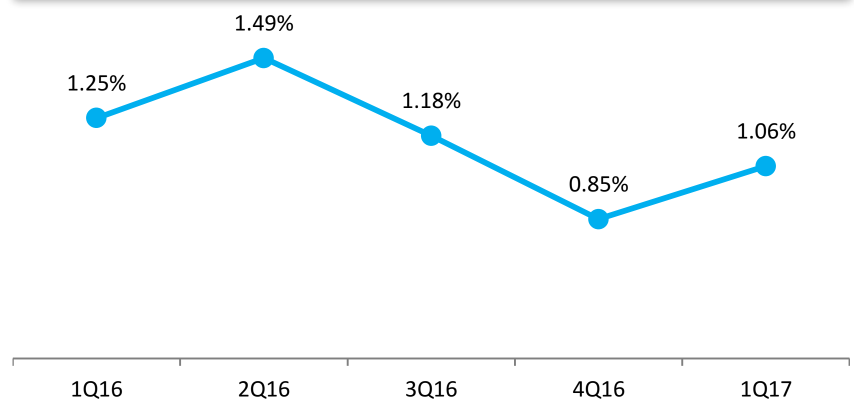
Asset Quality

- Nonperforming assets (NPAs) totaled $87.5 million or 2.15% of period end assets at March 31, 2017 compared to $106.3 million or 2.64% of period end assets at December 31, 2016
- Allowance for loan losses was 1.06% of total loans at March 31, 2017, and the allowance for loan losses plus the acquired loan net discount to total loans adjusted for the acquired loan net discount was 1.30%
- Provision expense of $6.1 million in the first quarter of 2017 reflects the addition of:
  - $4.9 million in reserves related to energy loans
  - $1.1 million charge-off due to the sale of an energy loan

Asset Quality



Allowance for Loan Losses Ratio [1]

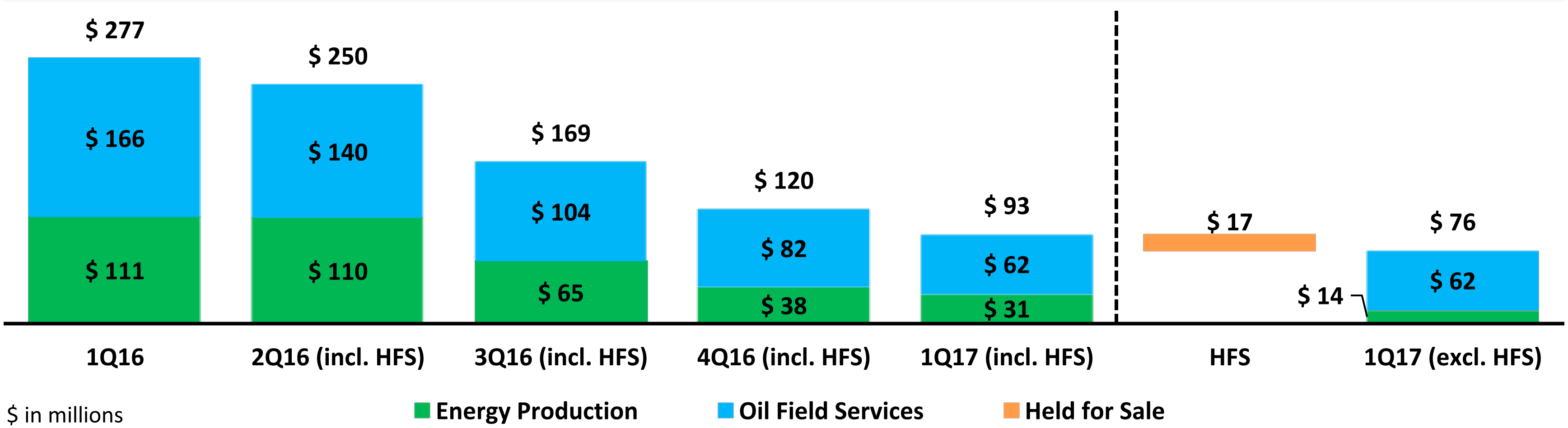


[1] Based on percentage of total gross loans held for investment

Overview of Energy Portfolio Progress

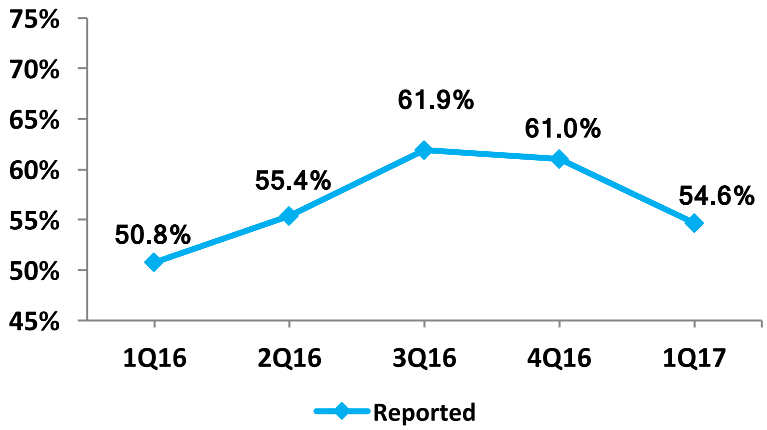
- The Managed Asset Reduction Strategy (MARS) was announced on April 28, 2016 during the first quarter conference call with $277 million of energy loans.
- The primary goal of MARS was to de-risk the loan portfolio, remove balance sheet volatility and position the company for normalized earnings results and growth through an accelerated resolution of the company's energy assets, primarily via payoff or sale
  - Since inception, the program has resolved $184 million of energy production and oil field services loans
- The company's total energy exposure stood at $76 million or 2.5% of total loans as of March 31, 2017 (excluding $17.4 million of loans held for sale), comprised of $14.1 million in energy production loans and $62.2 million in oil field services loans

Energy Portfolio Resolution History

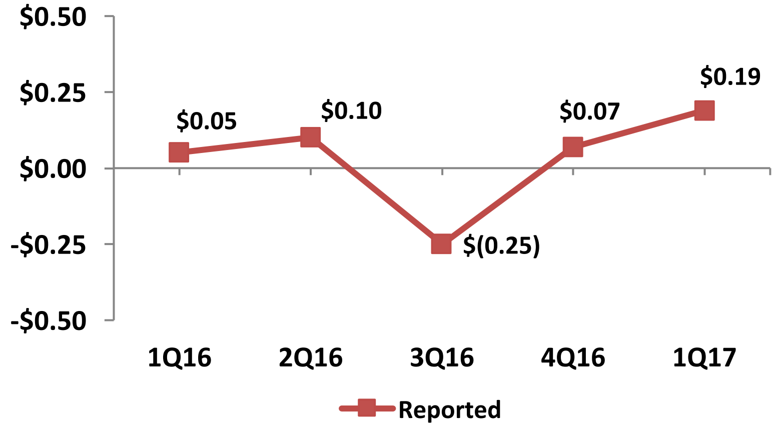


Performance Metrics

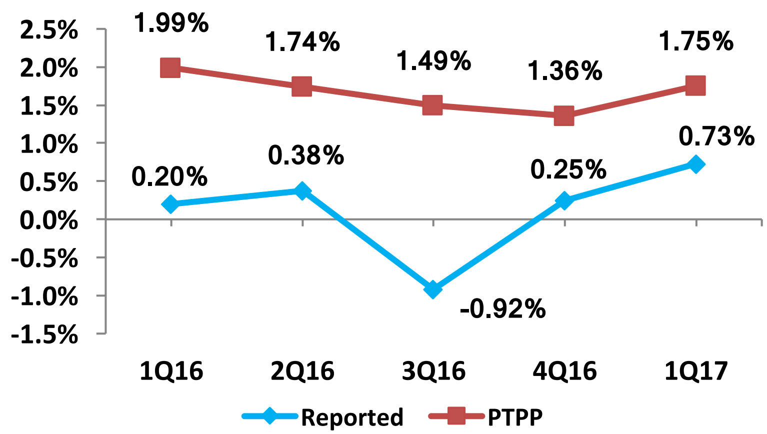
Efficiency Ratio



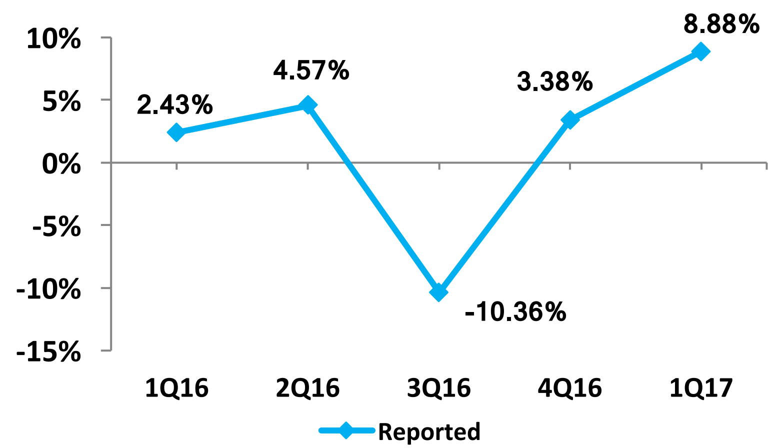
EPS



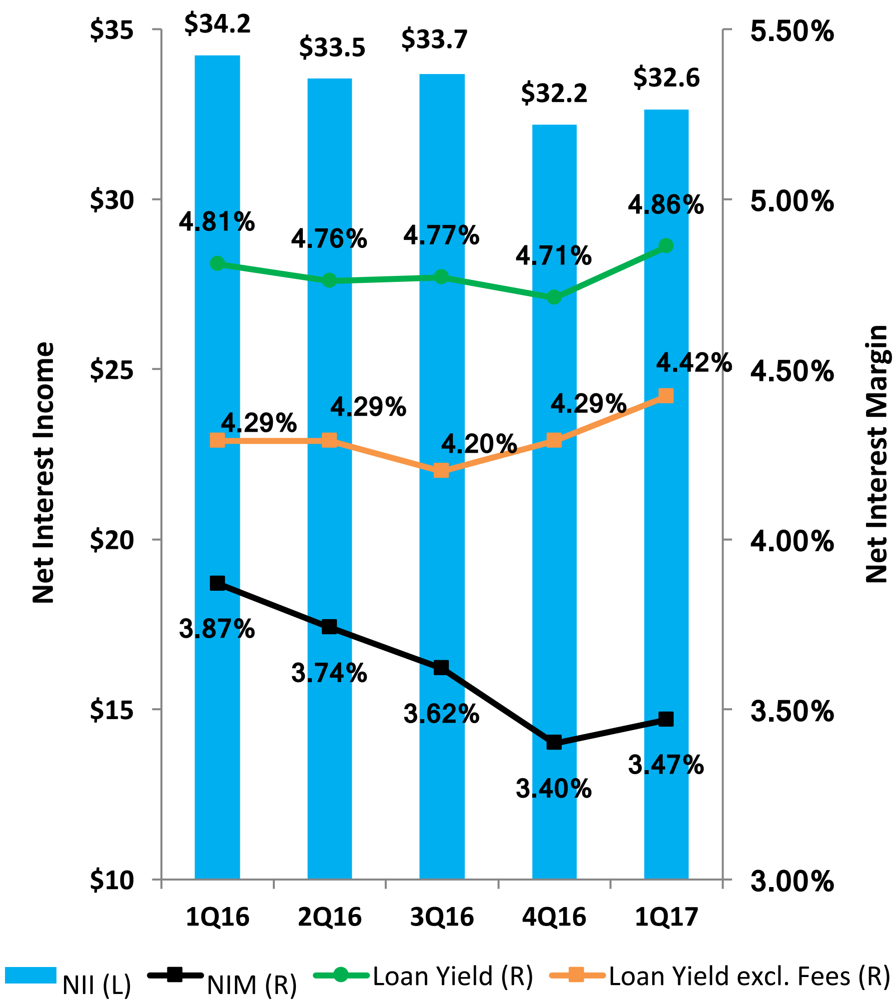
ROAA



ROATCE



Net Interest Income & Net Interest Margin

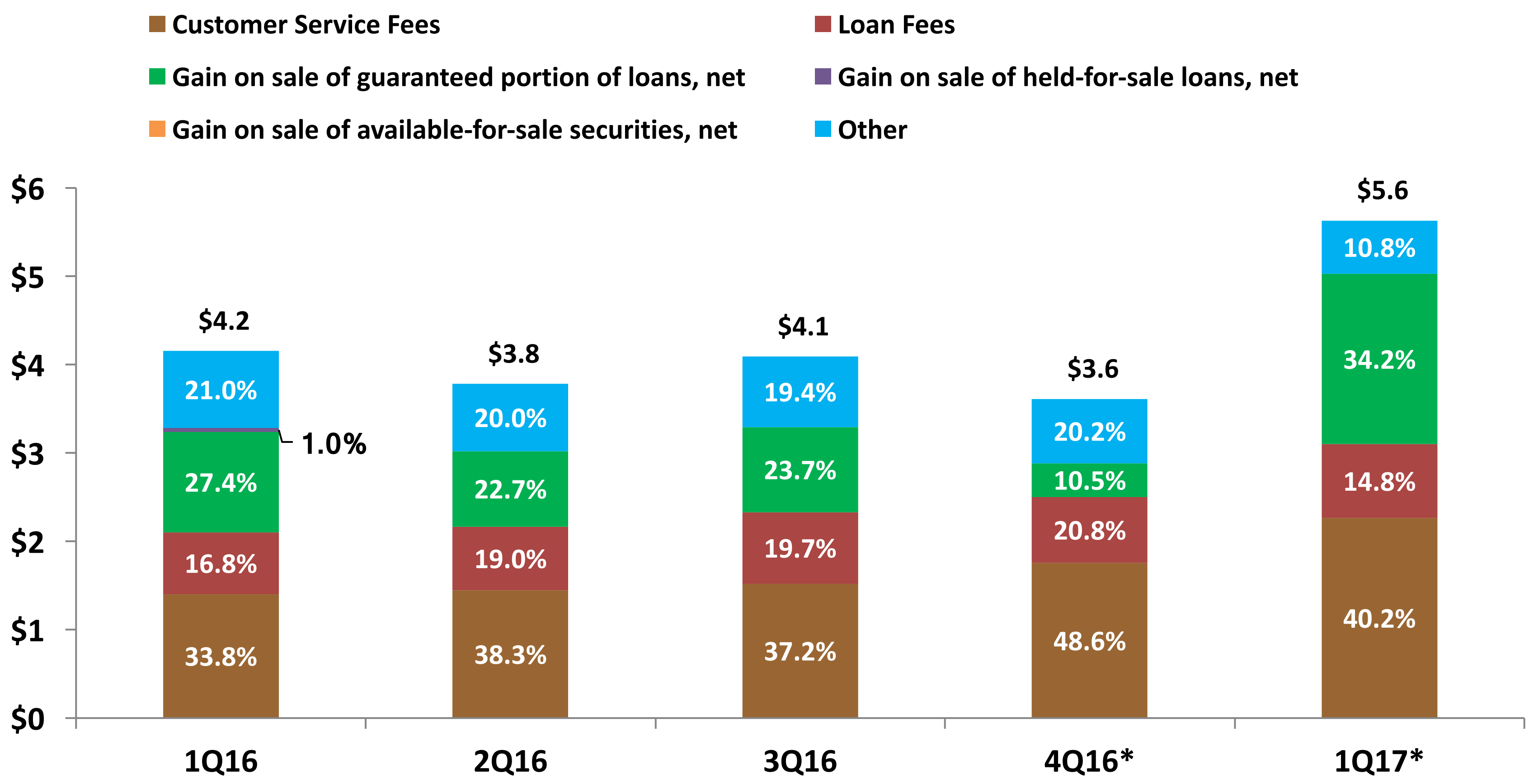


$ in millions

Highlights

- NIM increased 7 bps to 3.47% in 1Q17
- The primary factors impacting NIM were:
  - Fed Funds rate increase added 10 bps to the NIM
  - Investing of excess liquidity took the yield on the portfolio up 38 bps and added 10 bps to NIM
  - A full quarter of interest on the sub debt issued late in 4Q16 contracted the NIM by 6 bps
  - Lower purchase accounting accretion and less favorable earning asset mix accounted for the remaining 7 bps of NIM contraction
- Cost of deposits including noninterest-bearing was 0.68%, up 2 basis points compared to the prior quarter

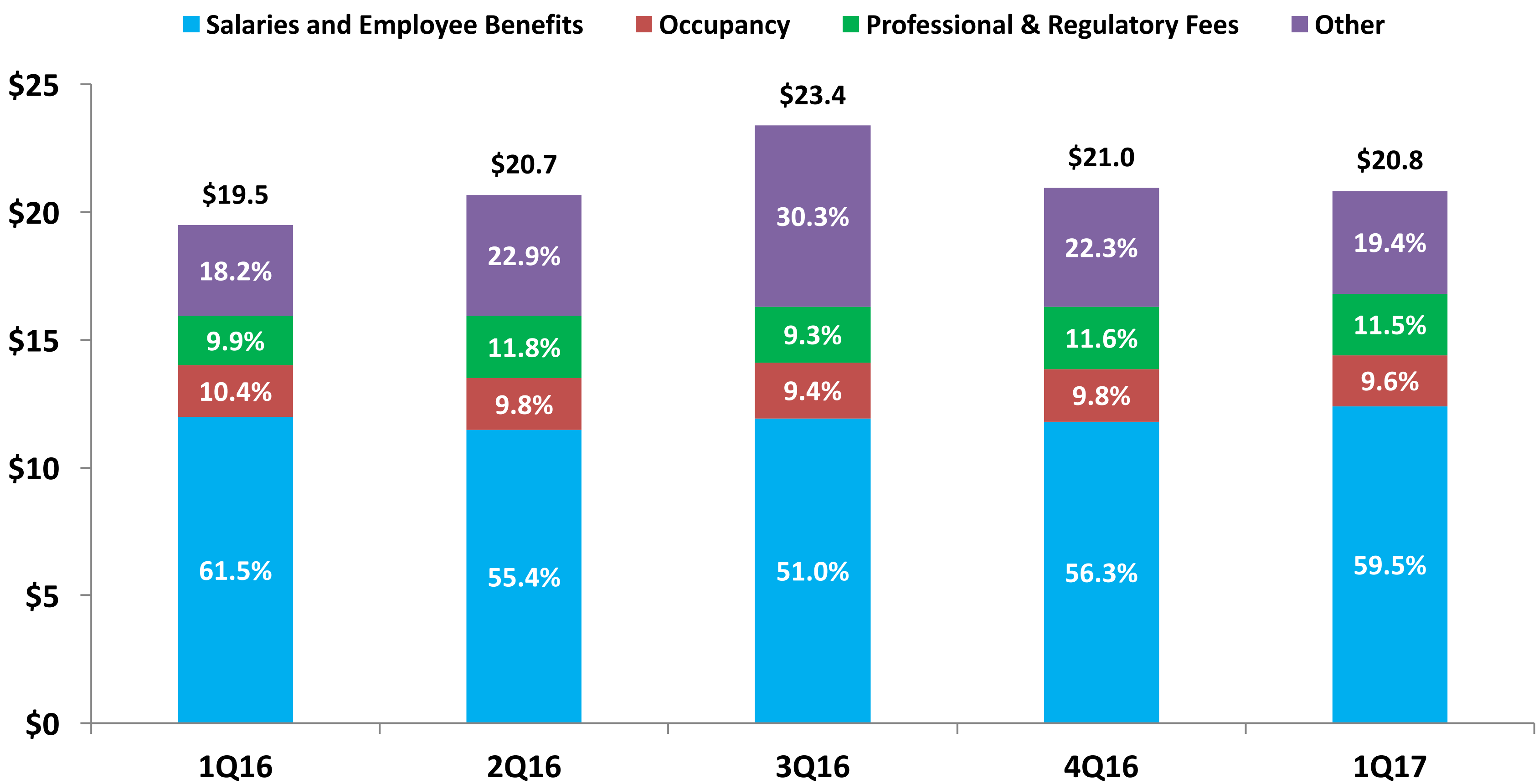
Noninterest Income



(*) Excluding net loss on the sale of held-for-sale loans of $1.4 million in 4Q16, and $0.1 million in 1Q17, respectively

$ in millions

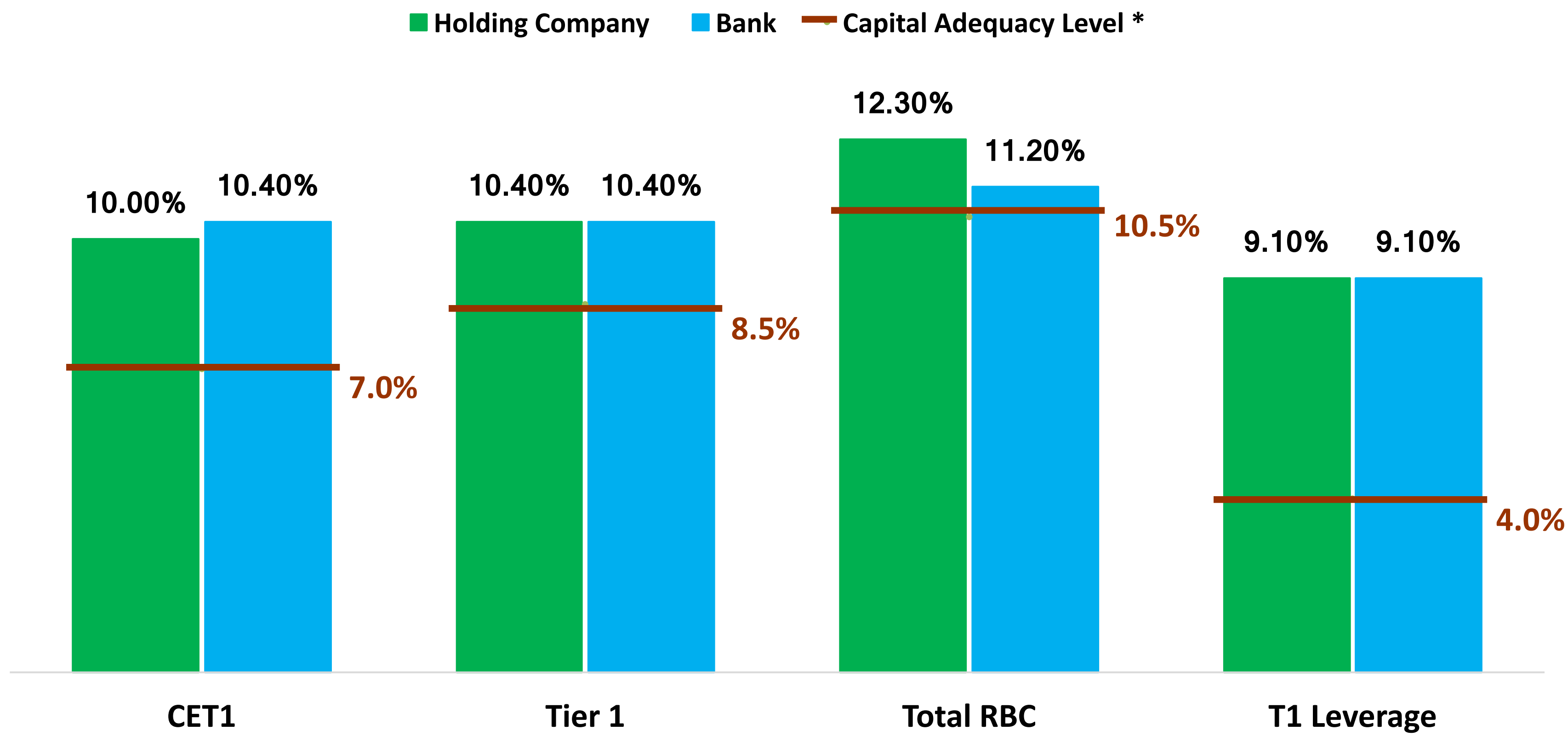
Noninterest Expense



Efficiency Ratio	50.8%	55.4%	61.9%	61.0%	54.6%

$ in millions

Capital Position



Capital	**$345.3**	**$355.3**	**$358.3**	**$355.3**	**$424.9**	**$383.3**	**$358.3**	**$355.3**

(*) When fully phased-in on January 1, 2019, the Basel III Capital Rules will require GNBC to maintain an additional capital conservation buffer of 2.5% CET1, effectively resulting in minimum ratios of 7.0% CET1, 8.5% Tier 1, 10.5% Total RBC and 4.0% minimum leverage ratio

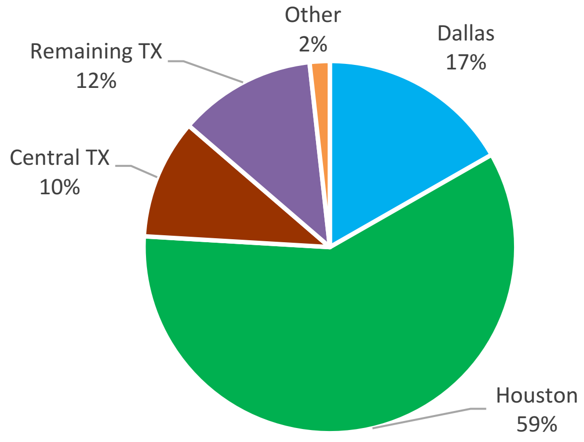
$ in millions

Question & Answer Session

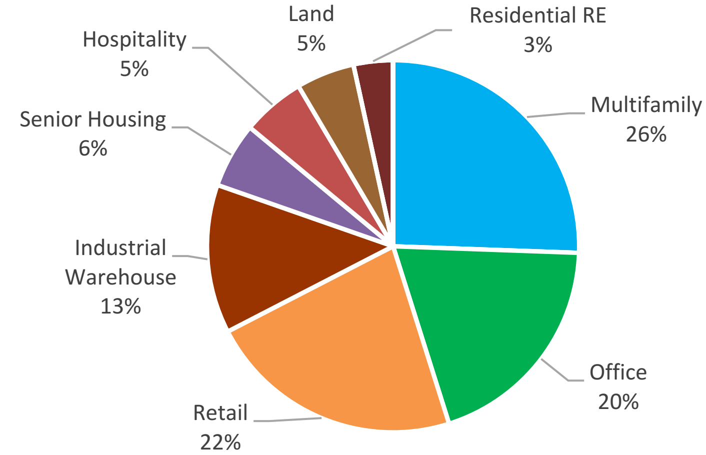
Appendix

Commercial Real Estate (CRE) Portfolio Detail

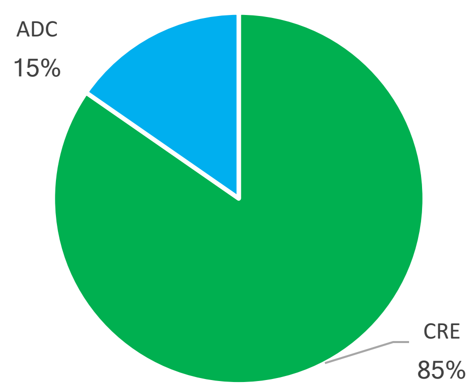
By Regional Distribution as of March 31, 2017 *



By Product as of March 31, 2017



CRE vs. ADC as of March 31, 2017



(*) Central TX denotes Austin, San Antonio and San Marcos

Note: Portfolio Detail excludes Farmland per CRE guidance regulations, though it is included in financial reporting

Financial Targets

- FY 2017 Net Interest Margin in the range of 3.65-3.75%
- FY 2017 Net Interest Income in the range of $130-140 million
- FY 2017 Provision Expense in the range of $14-16 million
- FY 2017 Noninterest Income in the range of $18-21 million
  - Expect the quarterly run rate to be ~$5 million through the remainder of 2017
- FY 2017 Noninterest Expense in the range of $80-84 million
  - Expect the quarterly run rate to be ~$20-21 million through the remainder of 2017