GREEN BANCORP

Fourth Quarter 2015
Earnings Presentation

January 29, 2016

Today's Speakers

- Manny Mehos – Chairman and Chief Executive Officer
- Geoff Greenwade – President and Bank Chief Executive Officer
- Donald Perschbacher – Executive Vice President & Corporate Chief Credit Officer
- John Durie – Executive Vice President and Chief Financial Officer

Safe Harbor

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In addition to factors previously disclosed in Green Bancorp's reports filed with the SEC and those identified elsewhere in this communication, the following factors among others, could cause actual results to differ materially from forward-looking statements: difficulties and delays in integrating the Green Bancorp and Patriot Bancshares, Inc. businesses or fully realizing cost savings and other benefits; business disruption following the proposed transaction; changes in asset quality and credit risk; the inability to sustain revenue and earnings growth; changes in interest rates and capital markets; inflation; customer borrowing, repayment, investment and deposit practices; customer disintermediation; the introduction, withdrawal, success and timing of business initiatives; competitive conditions; the inability to realize cost savings or revenues or to implement integration plans and other consequences associated with mergers, acquisitions and divestitures; economic conditions; and the impact, extent and timing of technological changes, capital management activities, and other actions of the Federal Reserve Board and legislative and regulatory actions and reforms.

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

Fourth Quarter Highlights

- Earnings per diluted share of $0.13, compared to $0.17 in the third quarter 2015 excluding one-time acquisition expenses and after recording a $12.5 million provision for loan losses
- Net income of $2.6 million, compared to $4.1 million in the third quarter 2015
- Pre-tax, pre-provision, adjusted net income of $19.7 million, compared to $10.5 million in the third quarter of 2015 and $8.8 million in the fourth quarter of 2014
- Solid loan growth excluding acquired loans, of $67 million or 3% to $2.0 billion, compared with September 30, 2015
- Full year loan growth excluding acquired loans of 14%, above target level
- Closed the merger with Patriot Bancshares on October 1, 2015 – four months from announcement to closing

Houston Economy

Strengths

- Houston is the 5th most populous U.S. metro area with ~6.5 million people, and remains a diversified economy (1)
- Houston employment is projected to grow in 2016 despite energy related layoffs (1)
- The petrochemical industry is a source of growth for Houston, with roughly $50 billion of planned capital investment (2)

Challenges

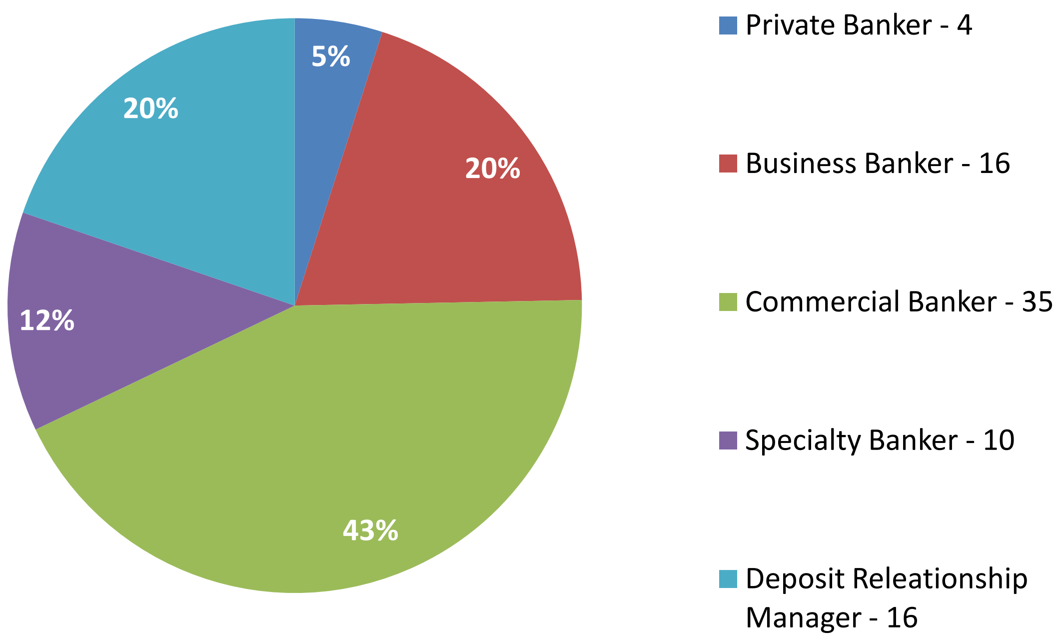
- The Houston-area unemployment rate increased to 4.9% through November as energy-related businesses decreased headcount, compared to 4.8% for the U.S. overall (3)
- Office vacancy rates in the Houston metro area increased by 3.4% during the fourth quarter with significant Class A sublease space on the market (4)
- Houston residential real estate prices have retreated from June 2015 record levels (5)

Sources: (1) Greater Houston Partnership, (2) Forbes, (3) Bureau of Labor Statistics, (4) Savills Studley, (5) The Wall Street Journal

Existing Banker Capacity

Our current group of bankers have the capacity to support up to a total of $4 billion of both loans and deposits

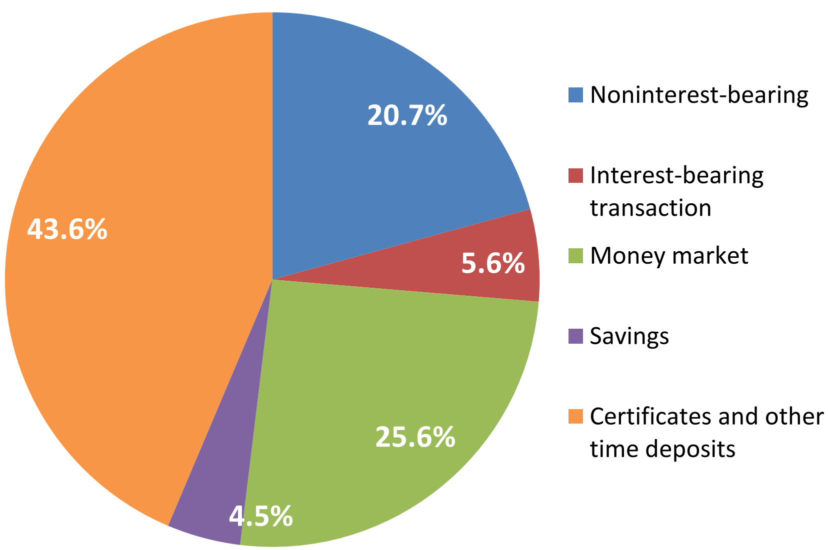
Banking Staff as of December 31, 2015



Deposit Update

Total Deposit Composition

As of December 31, 2015



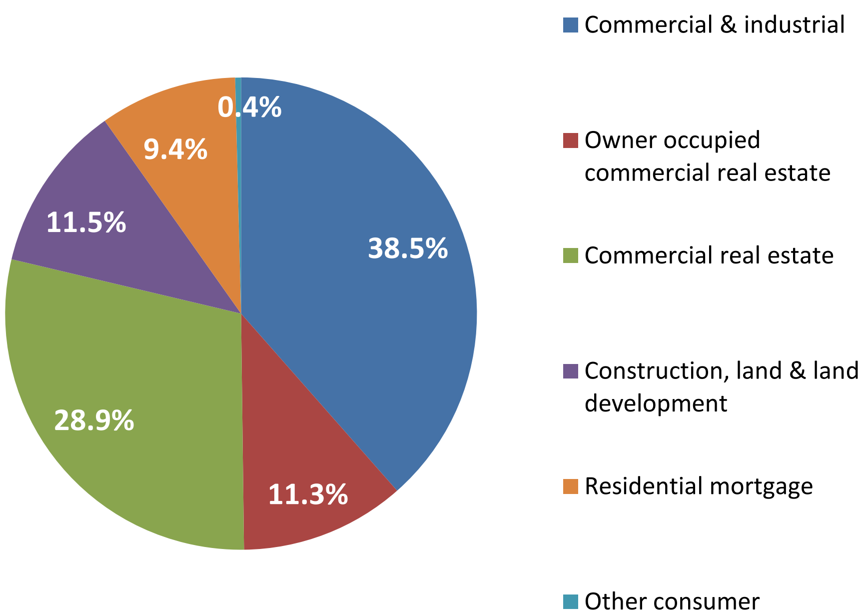
Highlights

- Total deposits were $3.1 billion as of December 31, 2015
- Noninterest-bearing deposits were 20.7% of deposits at December 31, 2015 up $144 million from September 30, 2015
- Cost of deposits including noninterest-bearing was 0.46%, down 3 bps from the third quarter

Loan Update

Total Loan Composition

As of December 31, 2015



Highlights

- Net organic loan growth of $67 million during the fourth quarter and $250 million for the year
- Loan yield for the third quarter of 2015 was 4.91%
  - Loan yield, excluding fees, for the third quarter was 4.22%, compared to 4.37% in the third quarter
  - Fees and discounts at payoff contributed approximately 18 basis points to the fourth quarter loan yield
  - Accretion of fees and discounts (net) contributed approximately 51 basis points to the fourth quarter loan yield
- Patriot added slightly more than $1 billion of loans

Credit Quality

- NPA's totaled $57.2 million or 1.51% of period end assets as compared to $36.3 million or 1.50% of period end total assets at September 30, 2015
- The increase in NPA's is primarily due to additional energy-related impaired loans, and the real estate acquired by foreclosure from the Patriot merger
- Allowance for loan losses was 1.05% of total loans at December 31, 2015, no change from 1.05% at September 30, 2015
- Provision of $12.5 million in the fourth quarter 2015 driven by specific reserves on impaired energy loans

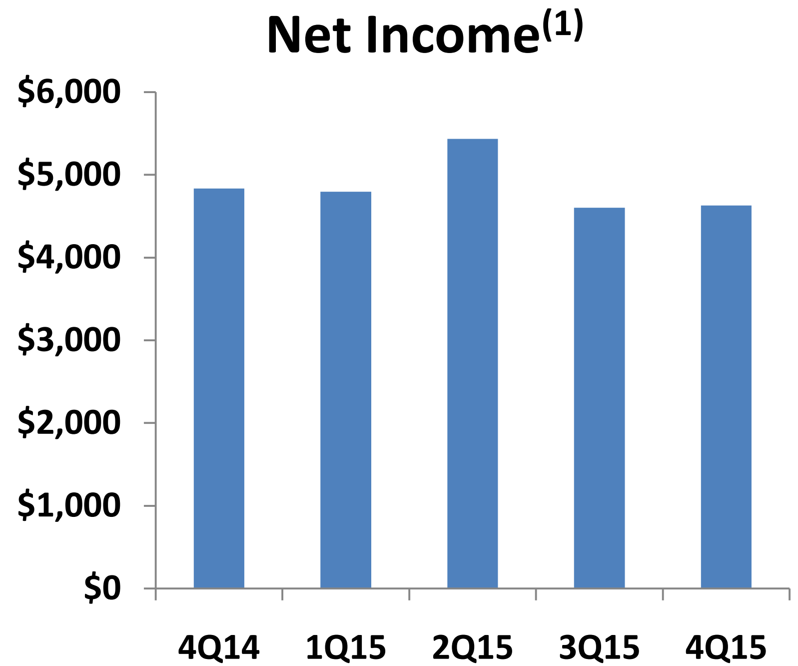
Energy Portfolio Update

- Energy-related exposure declined to 9.2% of total loans as of December 31, 2015
  - Reserve-based lending represents approximately 4.1% of total loan portfolio
  - Oilfield services lending represents approximately 5.1% of total loan portfolio
  - Allocated reserve of $17.6 million represents 6% of energy-related portfolio
- Patriot added $1.8 million of reserve-based exposure and approximately $79.5 million of oilfield services exposure
- The mix of reserved-based borrower production is 80% oil and 20% natural gas, 42% of oil production is hedged through 2016
- 80% of energy-related exposure is direct, 20% is SNC
  - Green Bank maintains ongoing relationships with all borrowers
- Grade migration in the energy-related portfolio was a major driver of increased provisions for the quarter and full year
- Losses in the energy-related portfolio are expected to be manageable

Fourth Quarter 2015 Financial Highlights

	2015 Q4	2015 Q3
Net Income(1)	4,630	4,604
EPS(1)	$0.13	$0.17
ROAA(1)	0.49%	0.76%
Loans(2)	$3,130,669	$1,982,280
Deposits	$3,100,748	$1,941,140

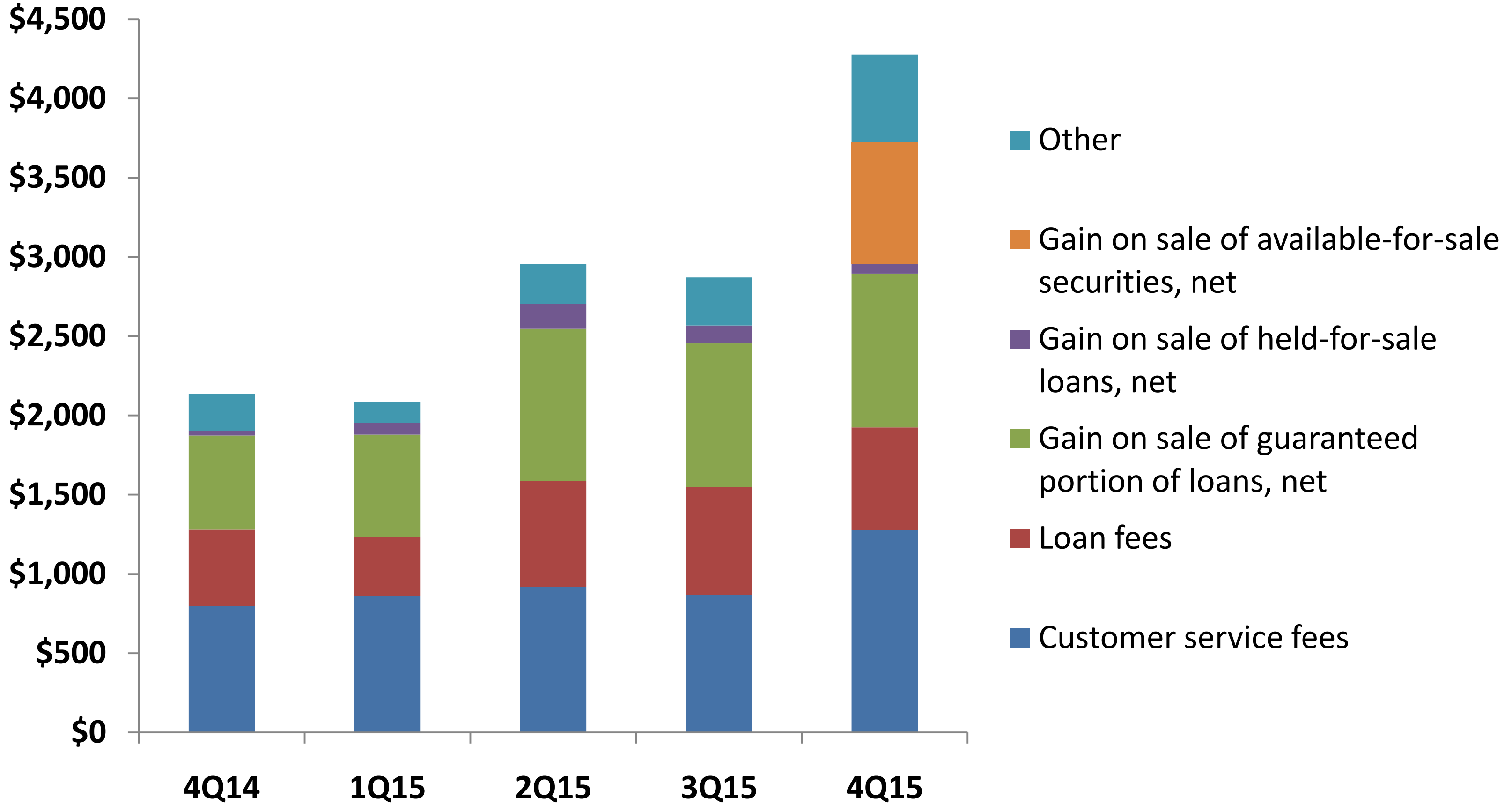
*Dollars in thousands, except per share data



*Dollars in thousands

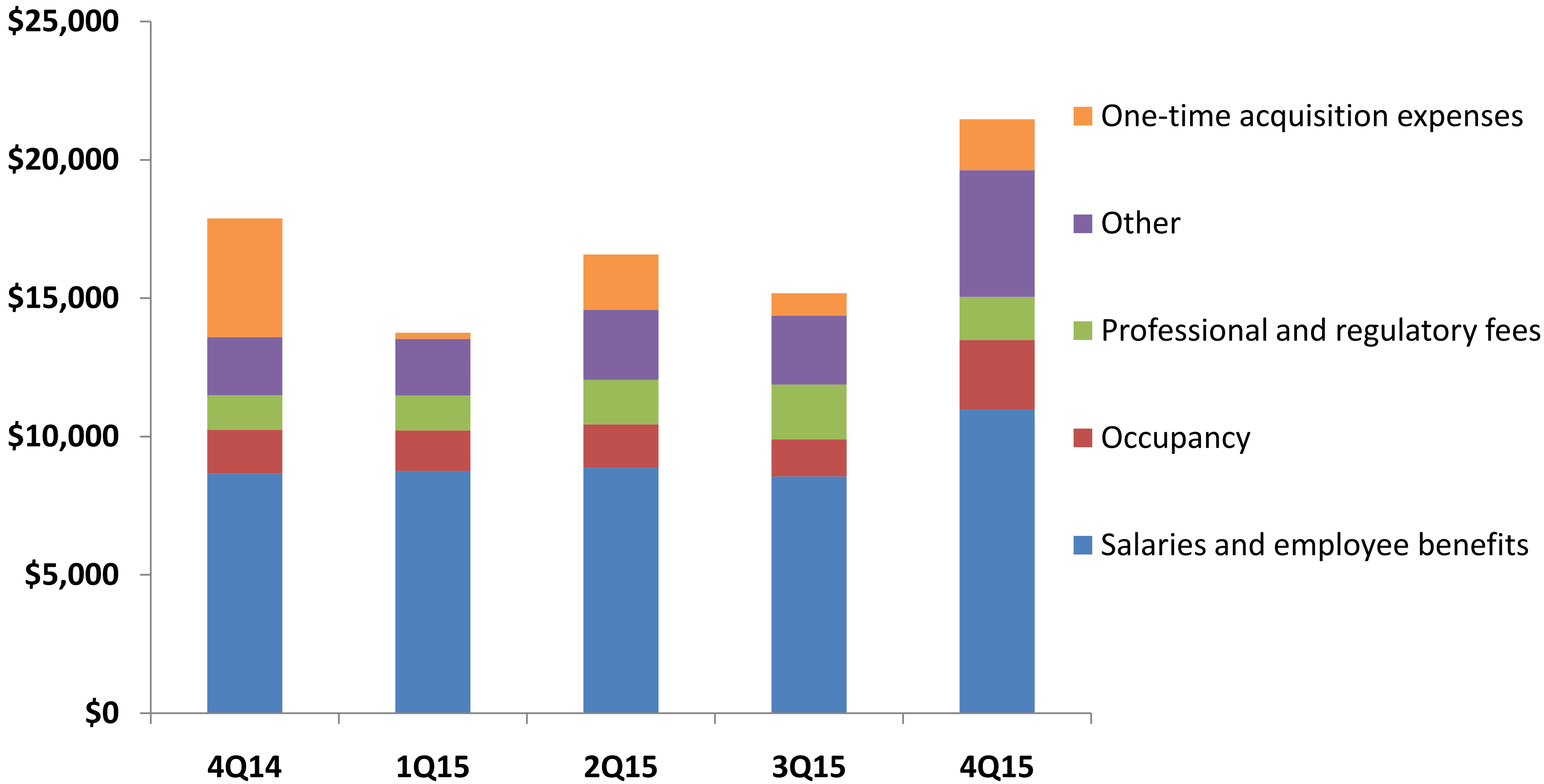
(1) Excluding one-time acquisition expenses
(2) Excluding loans held for sale

Noninterest Income



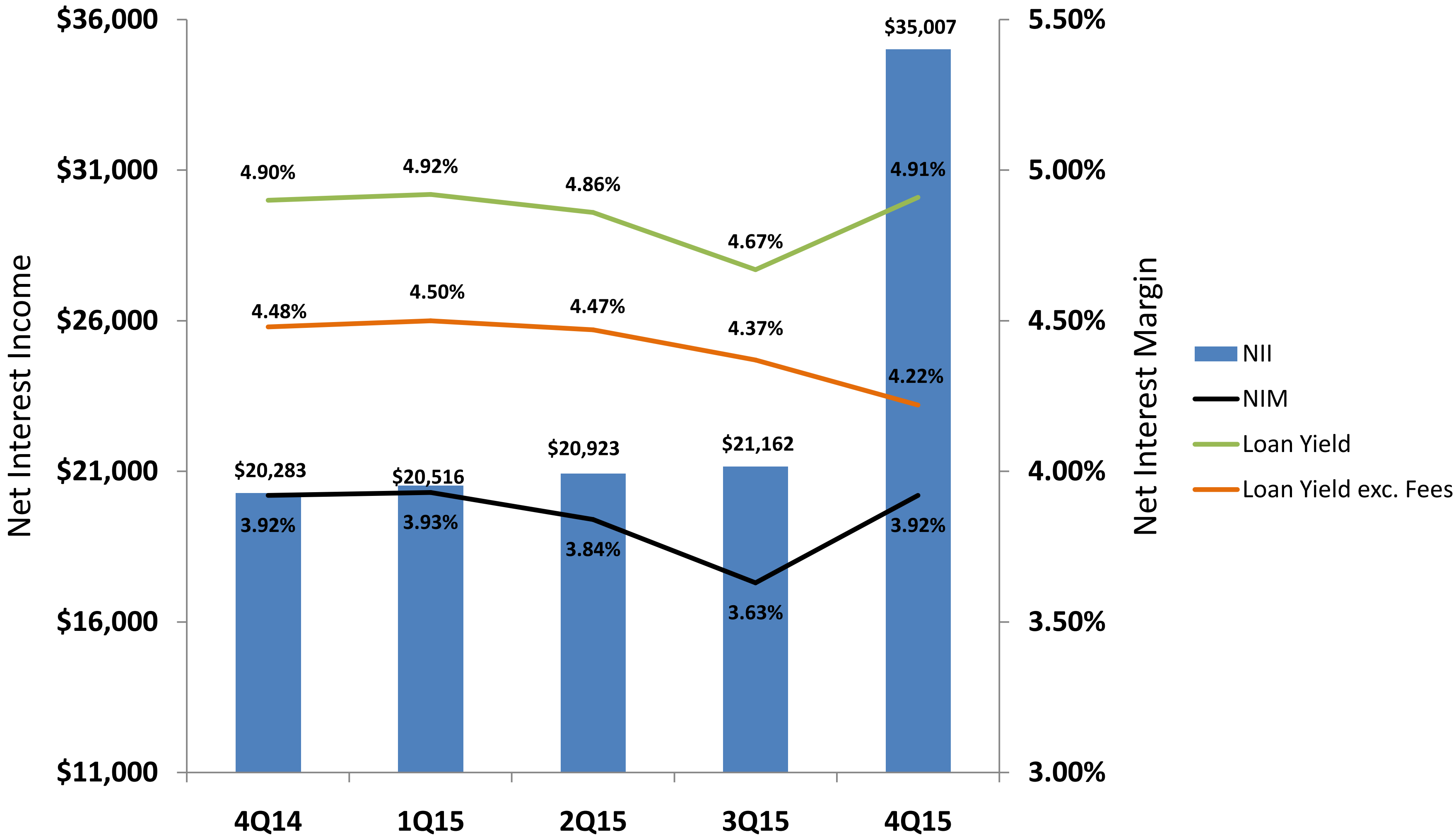
*Dollars in thousands

Noninterest Expense



*Dollars in thousands

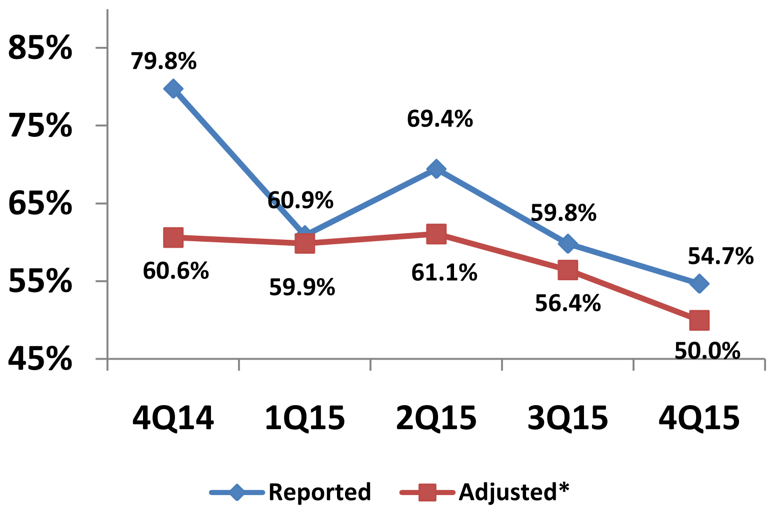
Net Interest Income and Net Interest Margin



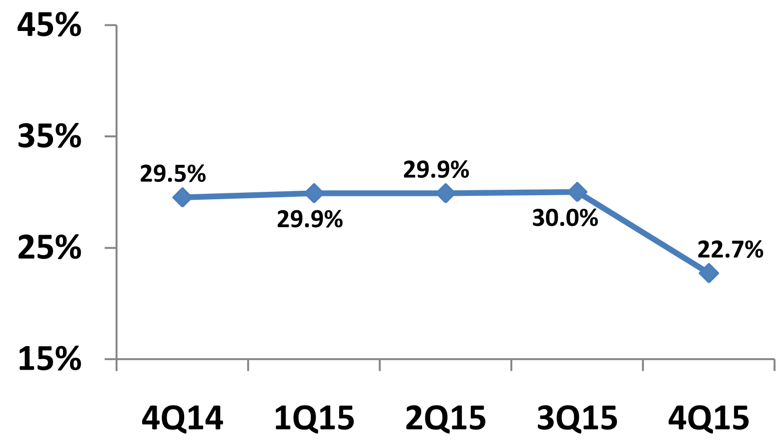
*Dollars in thousands

Performance Metrics

Efficiency Ratio



Remaining Banker Capacity



(*) excludes one-time acquisition expenses

Q & A