



## TRENDWATCH 2Q23



August 16, 2023

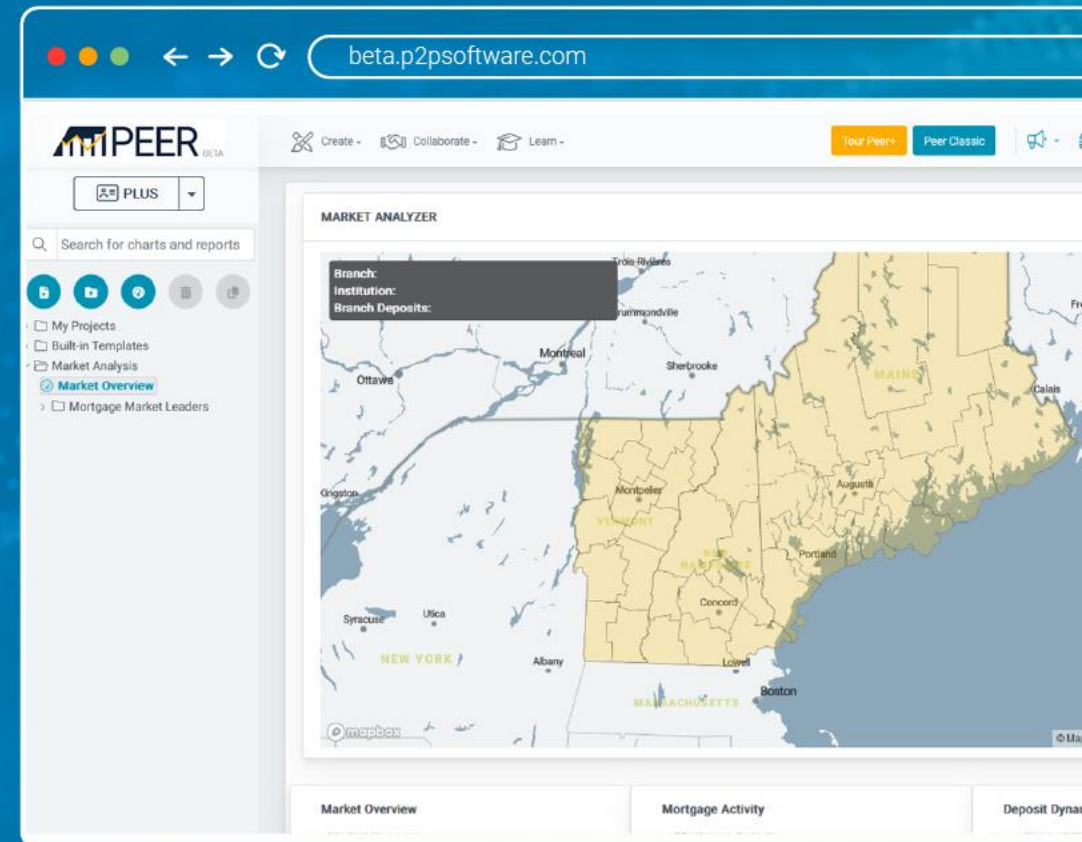
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# Today's Lineup

## **Market Update**

*Jason Haley, Chief Investment Officer, ALM First*

## **2Q 2023 Credit Union Results**

*Katy Slater, Senior Vice President, Callahan & Associates*

*William Hunt, Senior Analyst, Callahan & Associates*

## **Implementing Artificial Intelligence**

*Kal Majmundar, Chief Technology Officer, Patelco Credit Union*





**ALM FIRST**

for a partnership built on trust.

August 16, 2023

# ALM First Market Update

Callahan Trendwatch

# Speaker



**Jason Haley**  
Chief Investment Officer

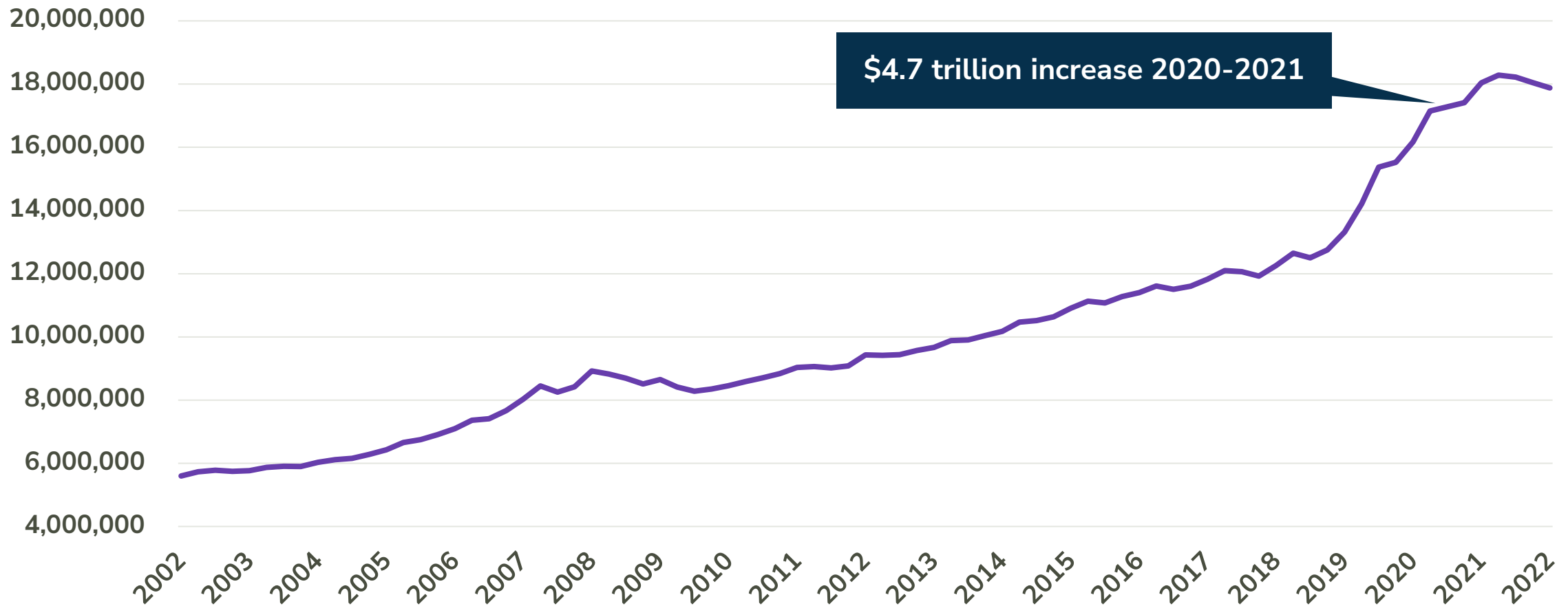
# Current Economic Themes

- **Softer June/July CPI revives ‘soft landing’ narrative**
  - Increased speculation that the Fed can succeed with suppressing inflation without sparking a recession
  - Labor market and consumer spending remain more resilient than many economists expected
  - July FOMC meeting was more neutral in tone, but Fed hawks are maintaining ‘higher for longer’ stance
- **Economic resilience, but signs of gradual weakening**
  - Consumers and the U.S. economy have proved more resilient than many economists expected
  - Corporate profits and profit margins have come under pressure in recent months, and interest burdens continue to rise
  - Consumer savings have eroded over the last 12 months, albeit at a slower pace than many expected (and from a much higher stimulus-induced base)
  - Bank credit tightening and lag effect of significant Fed tightening

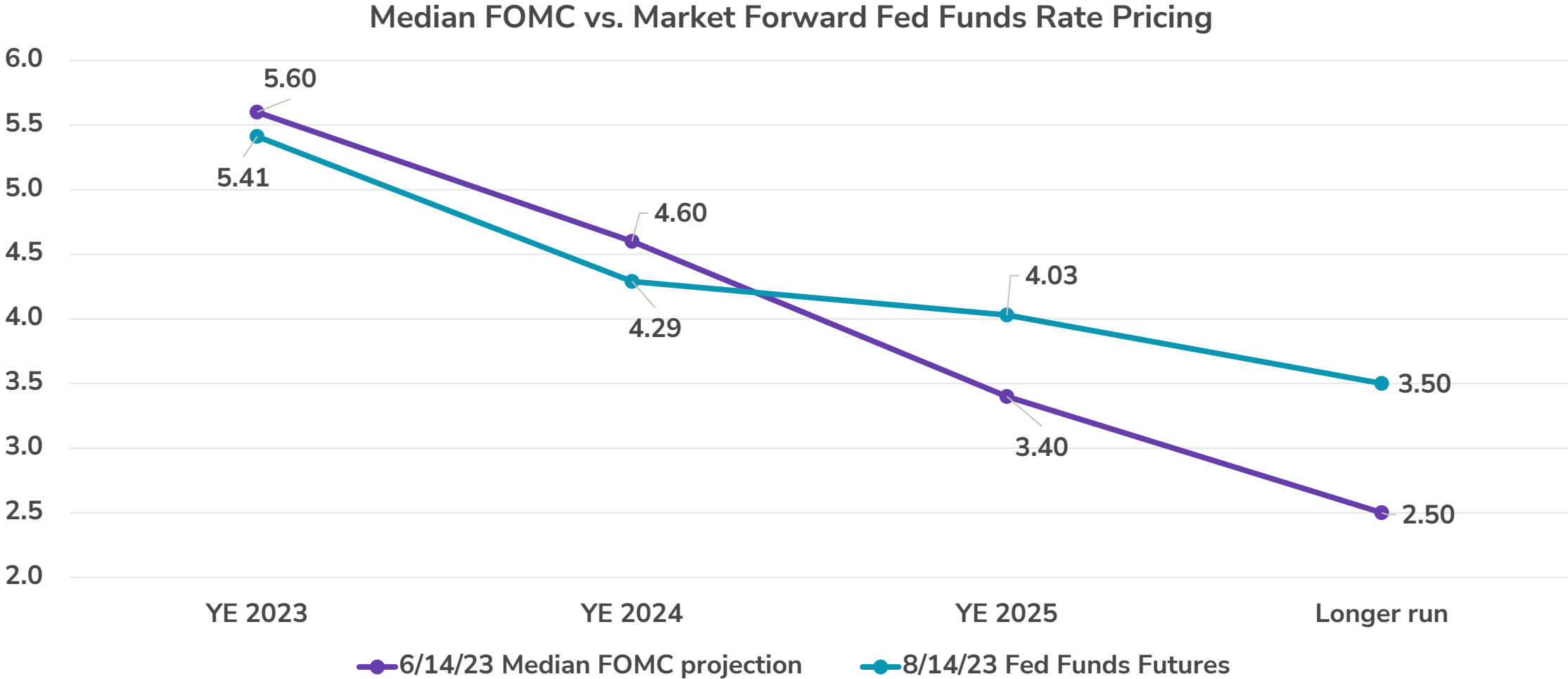


# COVID-Surge in Household Savings Still a Tailwind

Household Liquid Assets (\$ millions)



# Market and Fed Pricing For 2024 Converging



Source: Bloomberg; Federal Reserve; ALM First

- **Financial markets are optimistic, but market conditions remain challenging for credit unions**
  - Inverted yield curves, rising cost of funds, and rising credit delinquencies present risks to future earnings
  - Disciplined risk management, including asset pricing and hedging, is as critical as ever
  - Opportunities still exist for CUs with strong capital and liquidity profiles (i.e., liquidity providers)
- **Regulatory changes and greater examination scrutiny are likely**
  - BASEL III 'endgame' recently announced by US regulators, including greater capital requirements for \$100 billion and larger banks
  - Still uncertain of regulatory changes for CUs and community banks, but increased examination scrutiny is more likely in the near-term

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3800 Maple Avenue, Suite 600  
Dallas, TX 75219  
Phone: 800.752.4628  
Fax: 214.987.1052

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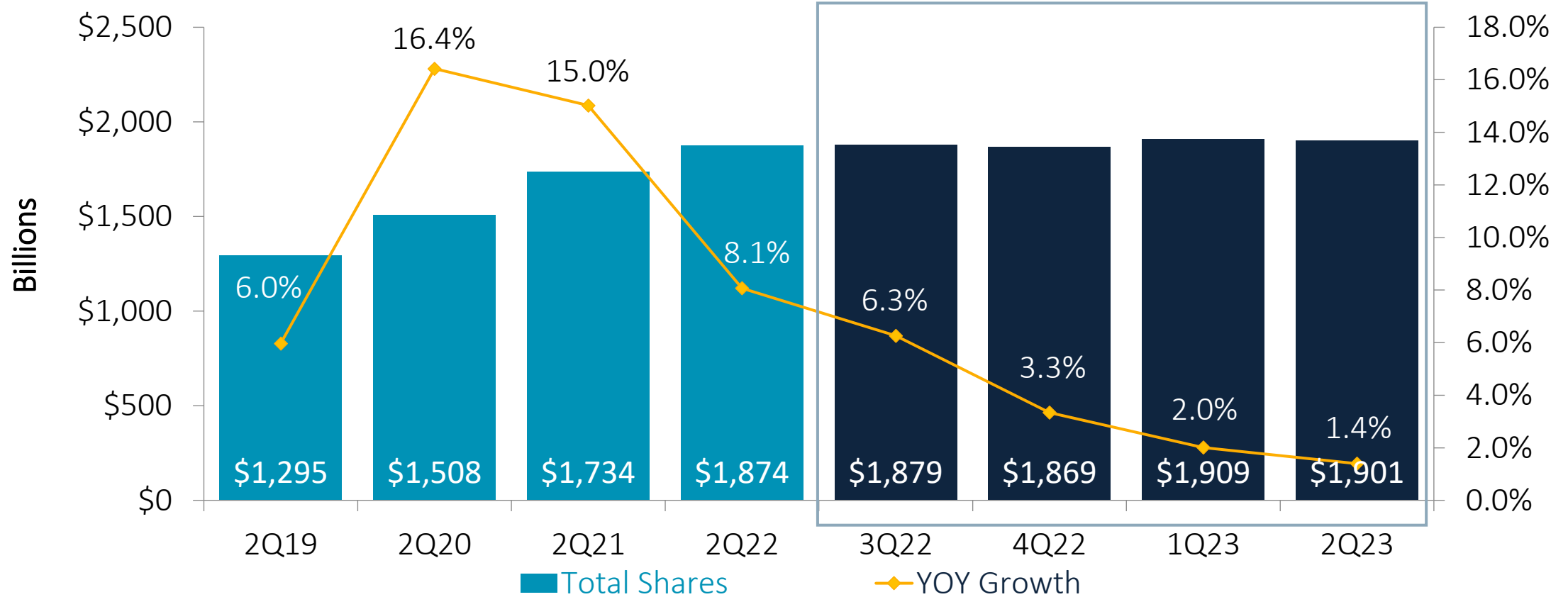


## As interest rate environment shifts, loan and share growth slows

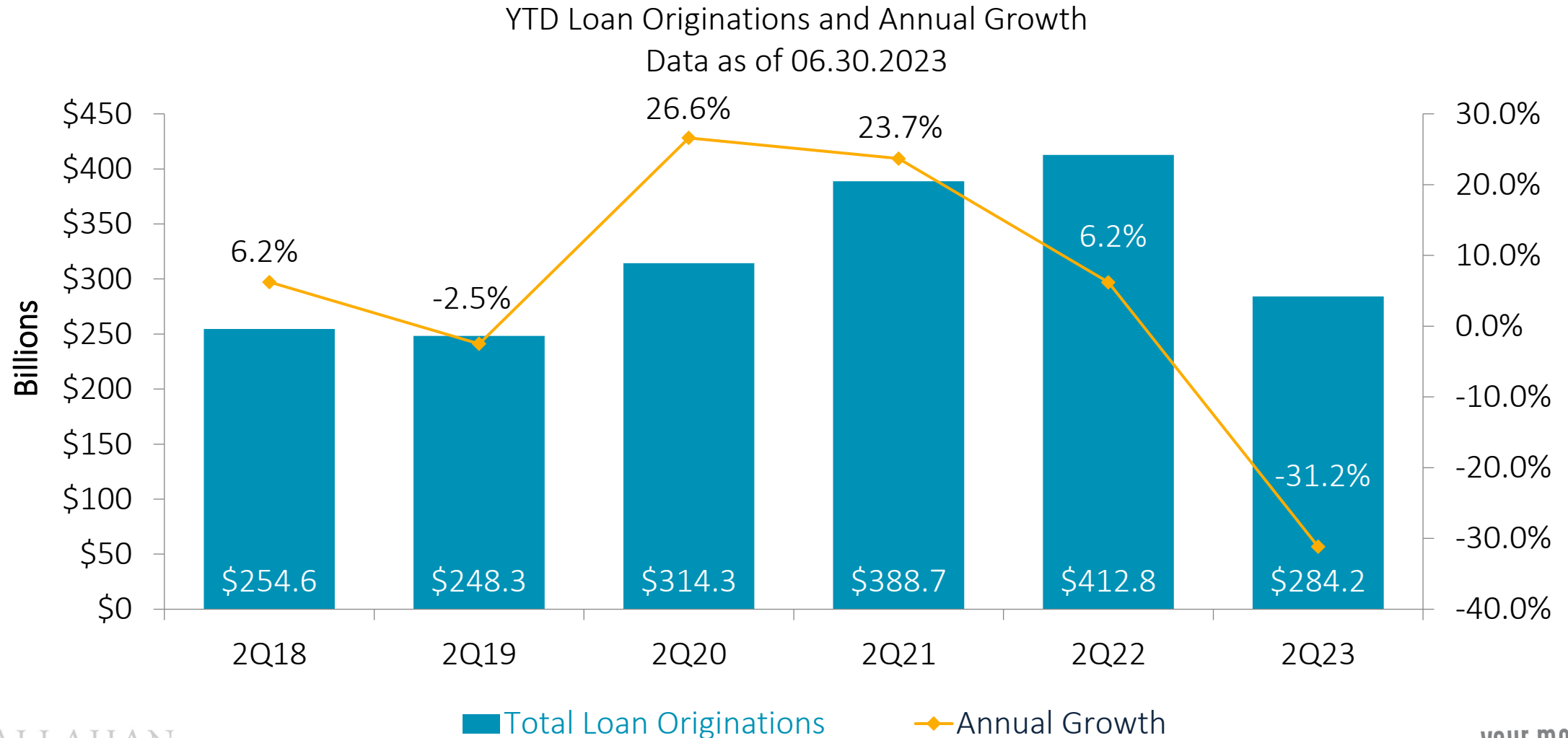
	6/30/2023	12-Mo. Growth	6/30/2022	12-Mo. Growth
Assets	\$2,245.2B	4.0%	\$2,158.6B	8.0%
Loans	\$1,579.1B	12.8%	\$1,400.2B	16.1%
Shares	\$1,900.7B	1.4%	\$1,874.4B	8.1%
Investments	\$574.2B	-12.6%	\$657.3B	-6.2%
Capital	\$218.9B	6.5%	\$205.6B	-3.7%
Members	139.3M	4.0%	133.9M	4.2%

# Shares are growing at the slowest annual pace this millennium, but there are signs of optimism looking ahead

Total Shares and Annual Growth  
Data as of 06.30.2023

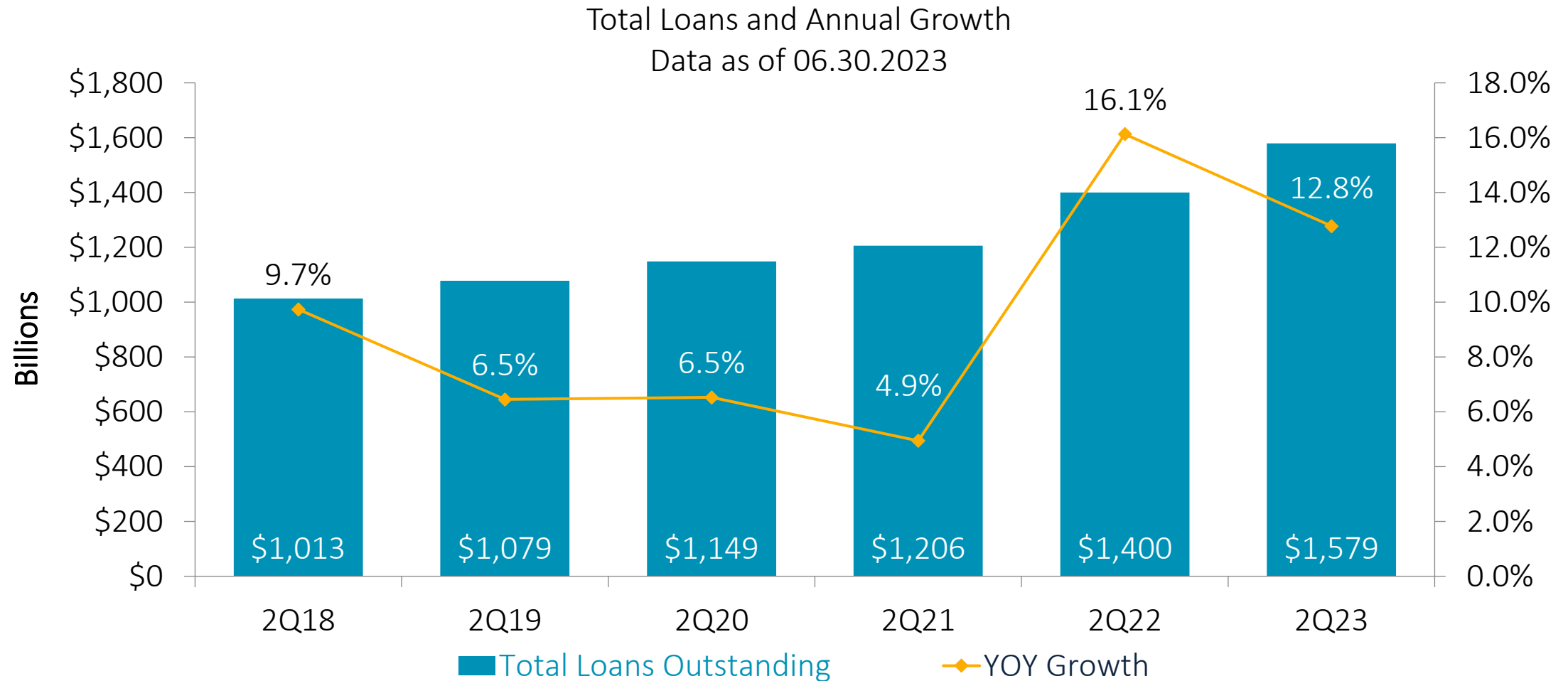


# Loan originations decline as consumer demand slows amidst rising interest rates

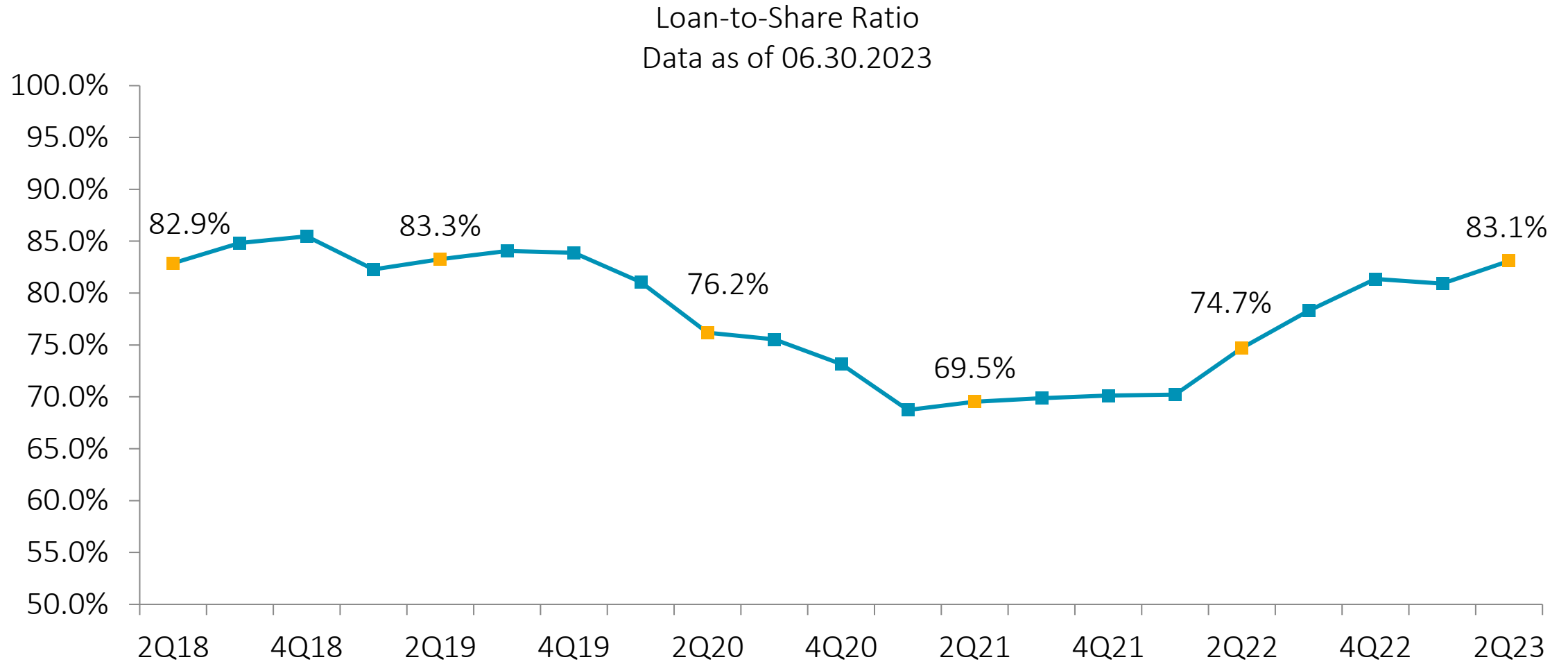




# Balance sheet loan growth remains strong as the pace of member paydowns slows

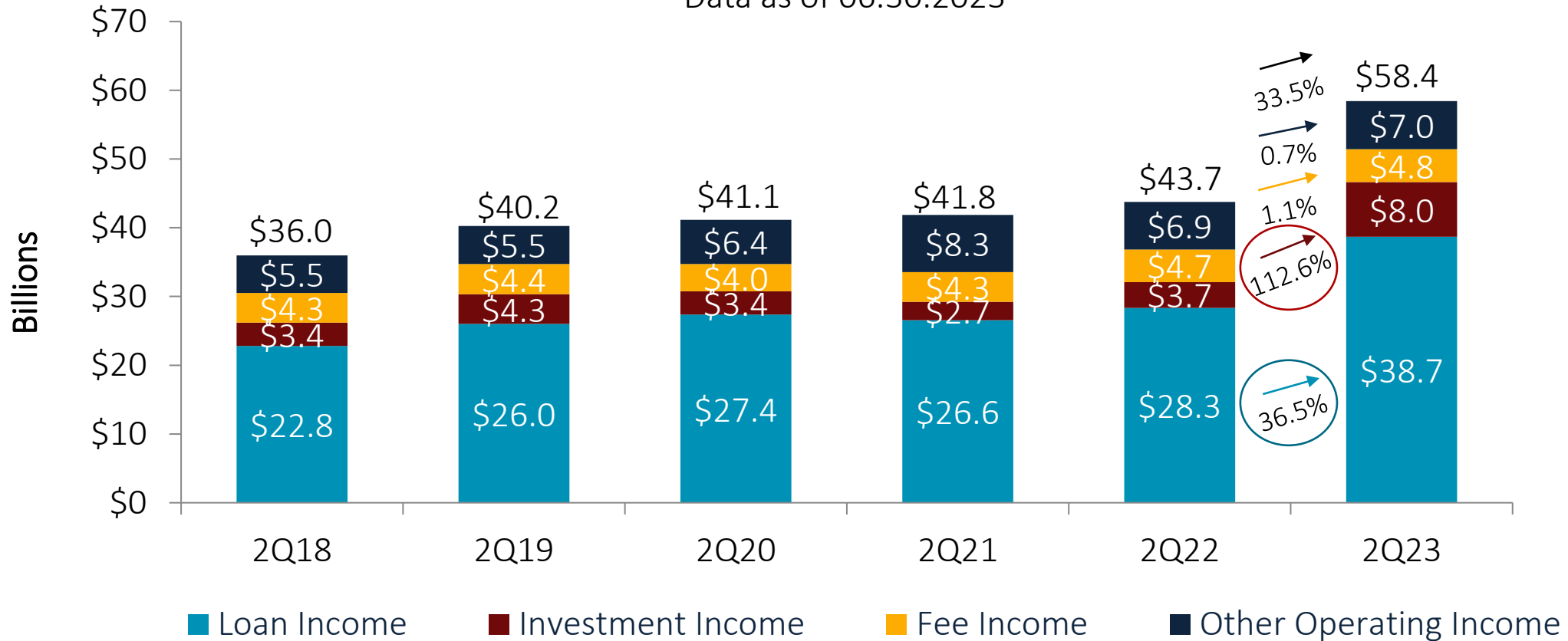


# The loan-to-share ratio is at its highest level in four years...but not the highest all time

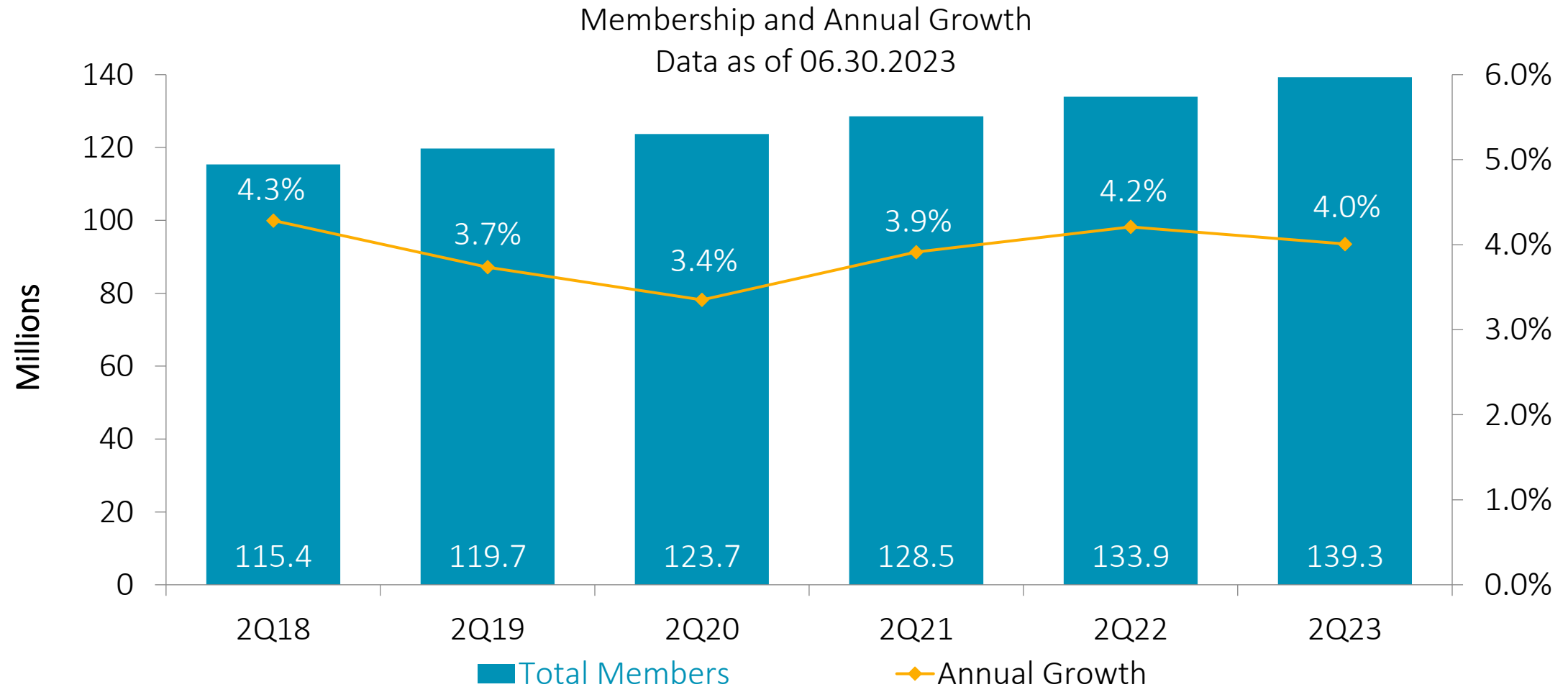


# Higher interest income drives 34% jump in total revenue

Total Revenue  
Data as of 06.30.2023



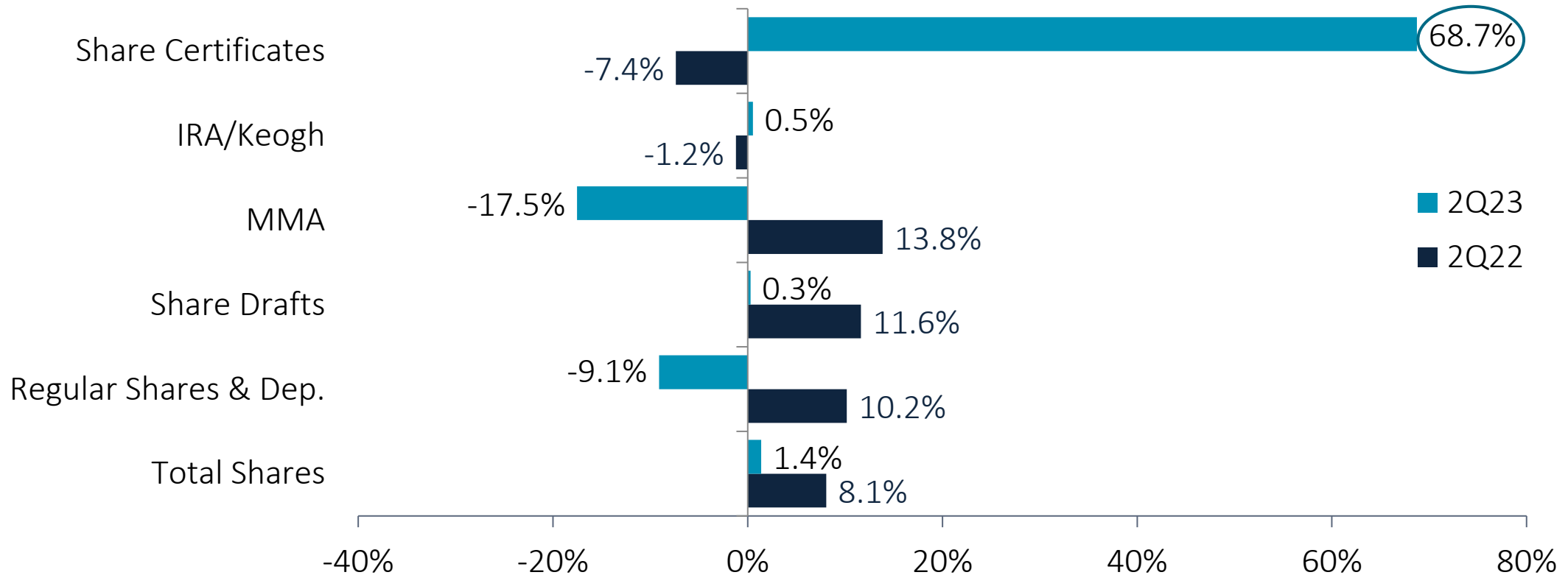
# Credit unions add nearly 5.4 million members over the past year



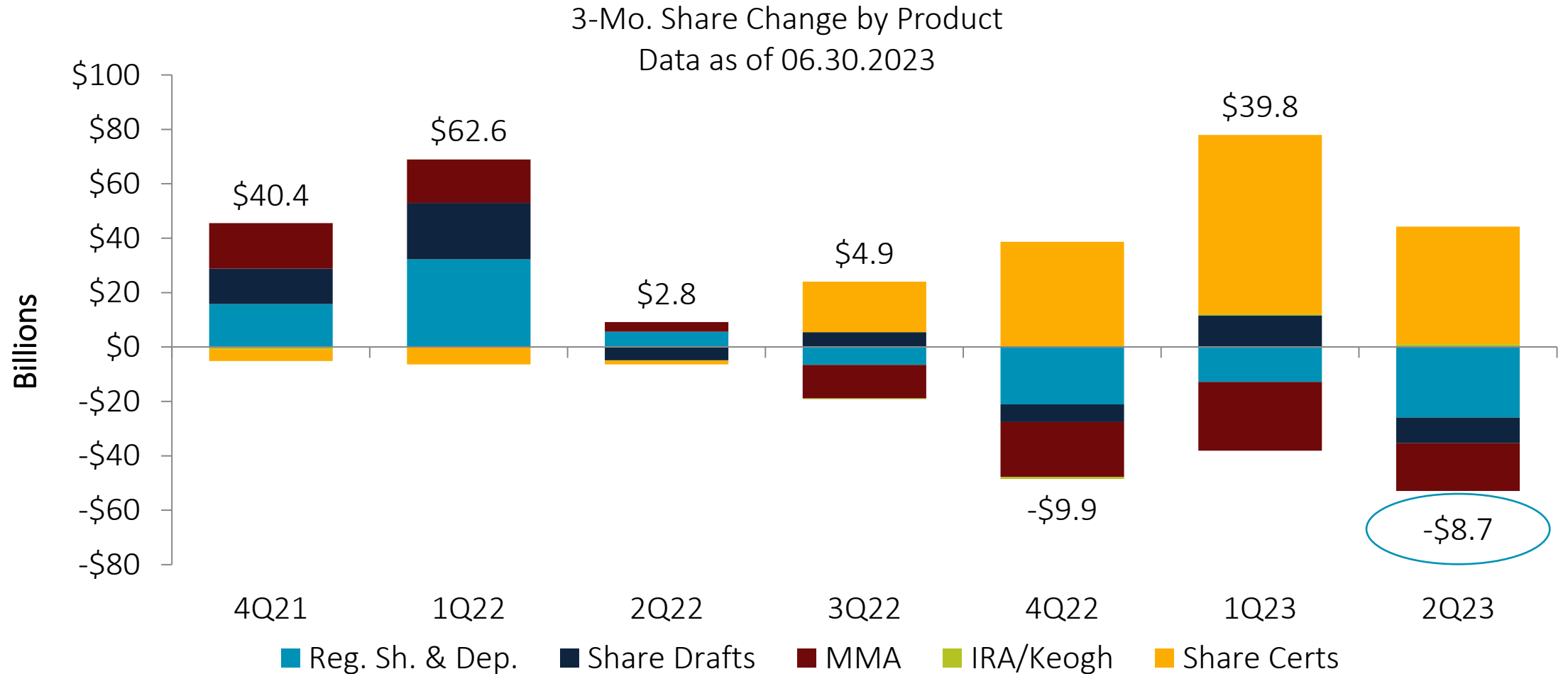
# Savings

# Share certificates continue to fuel share growth as members take advantage of higher savings yields

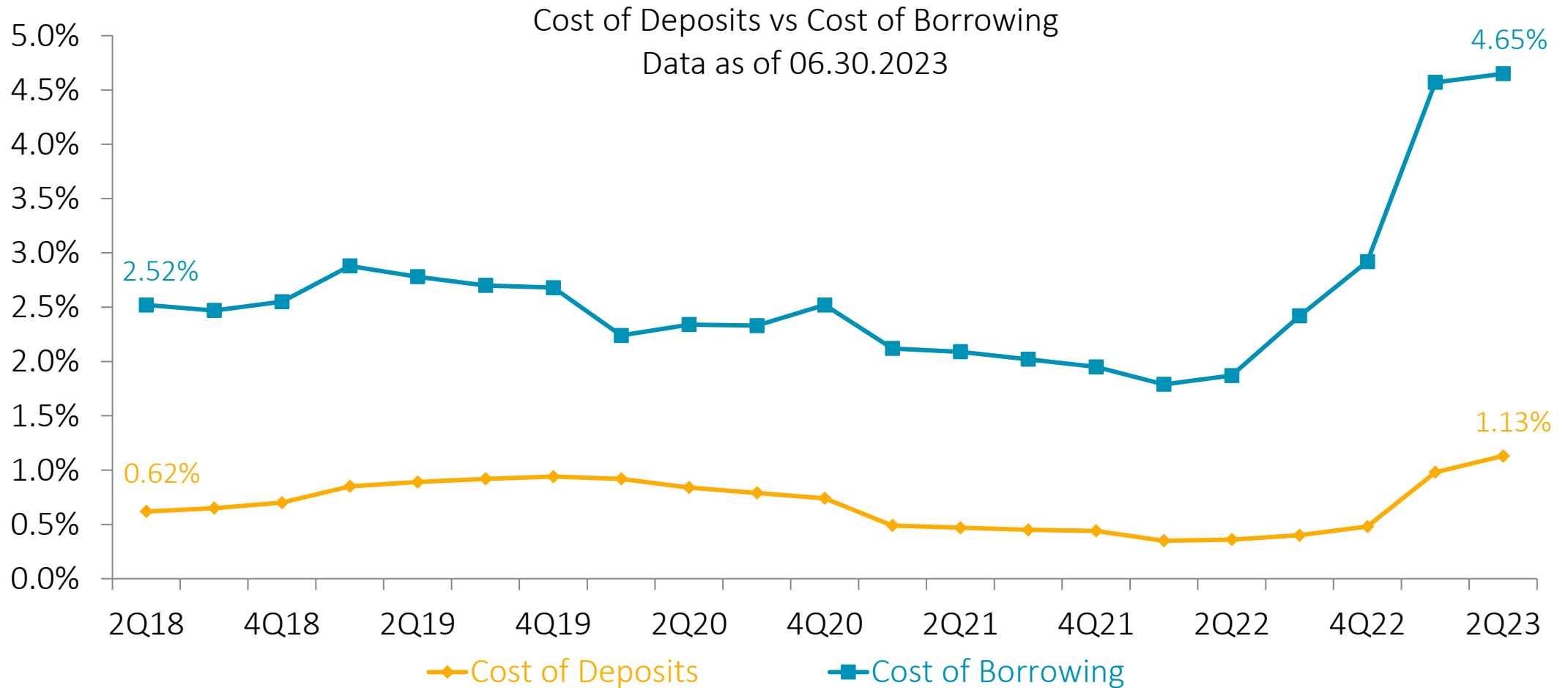
12-Mo. Growth in Shares Segments  
Data as of 06.30.2023



# Members have directed over \$166 billion to certificates over the past 12 months



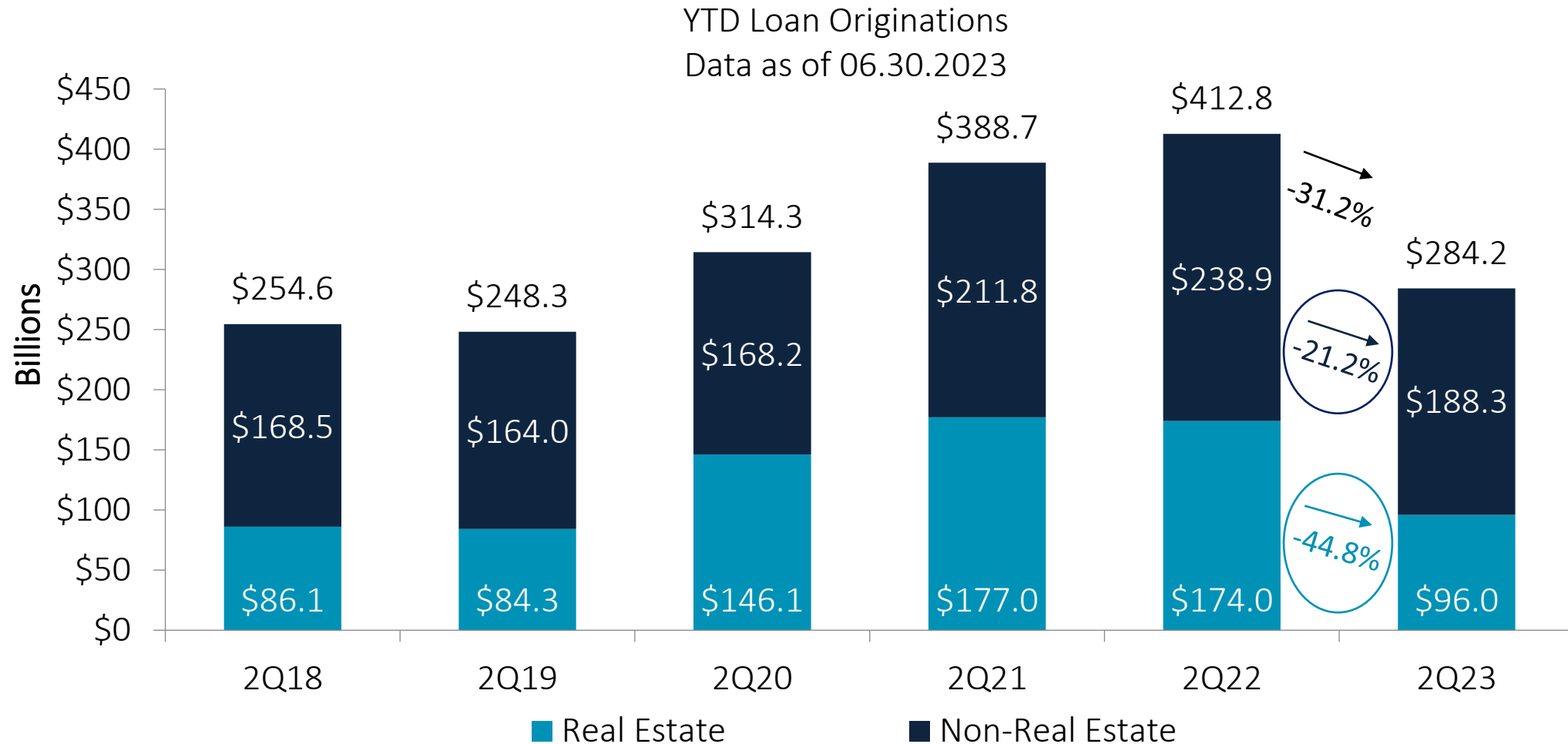
# With borrowing costs rising, credit unions choose to reward savers via certificates and other savings programs



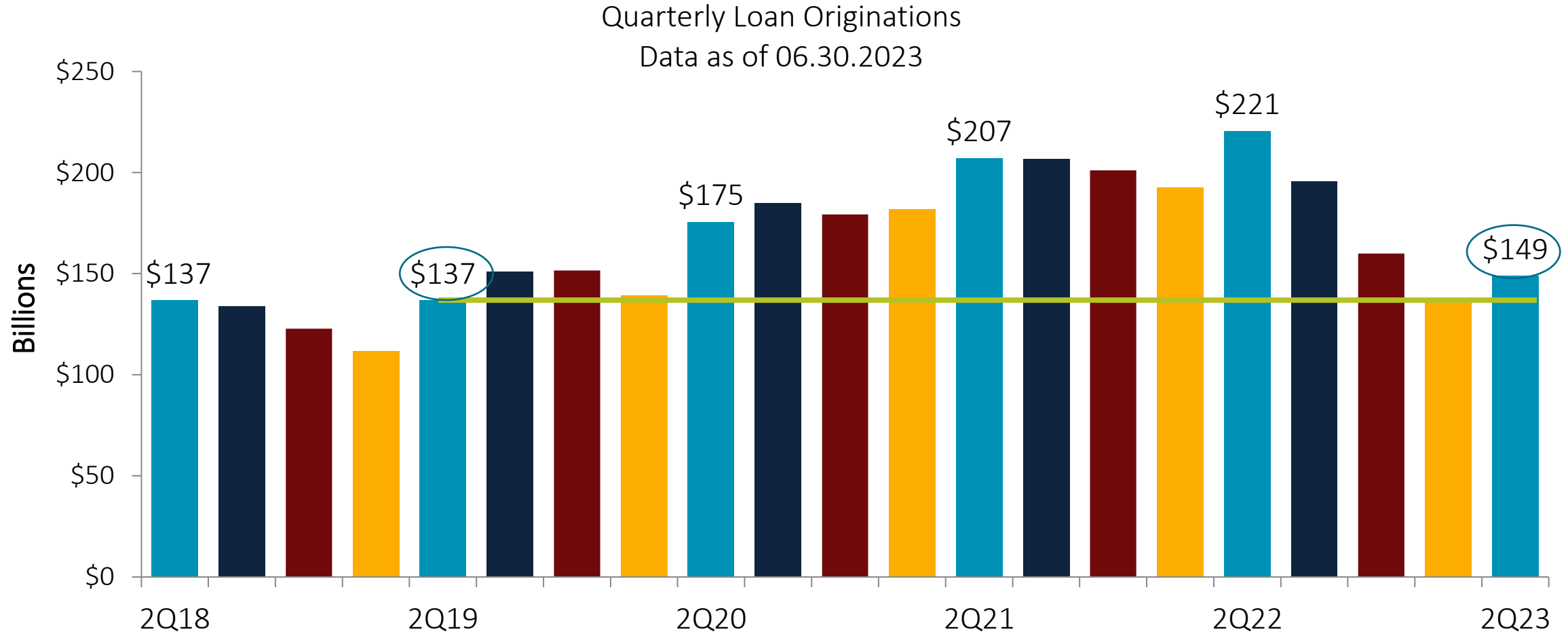


# Lending

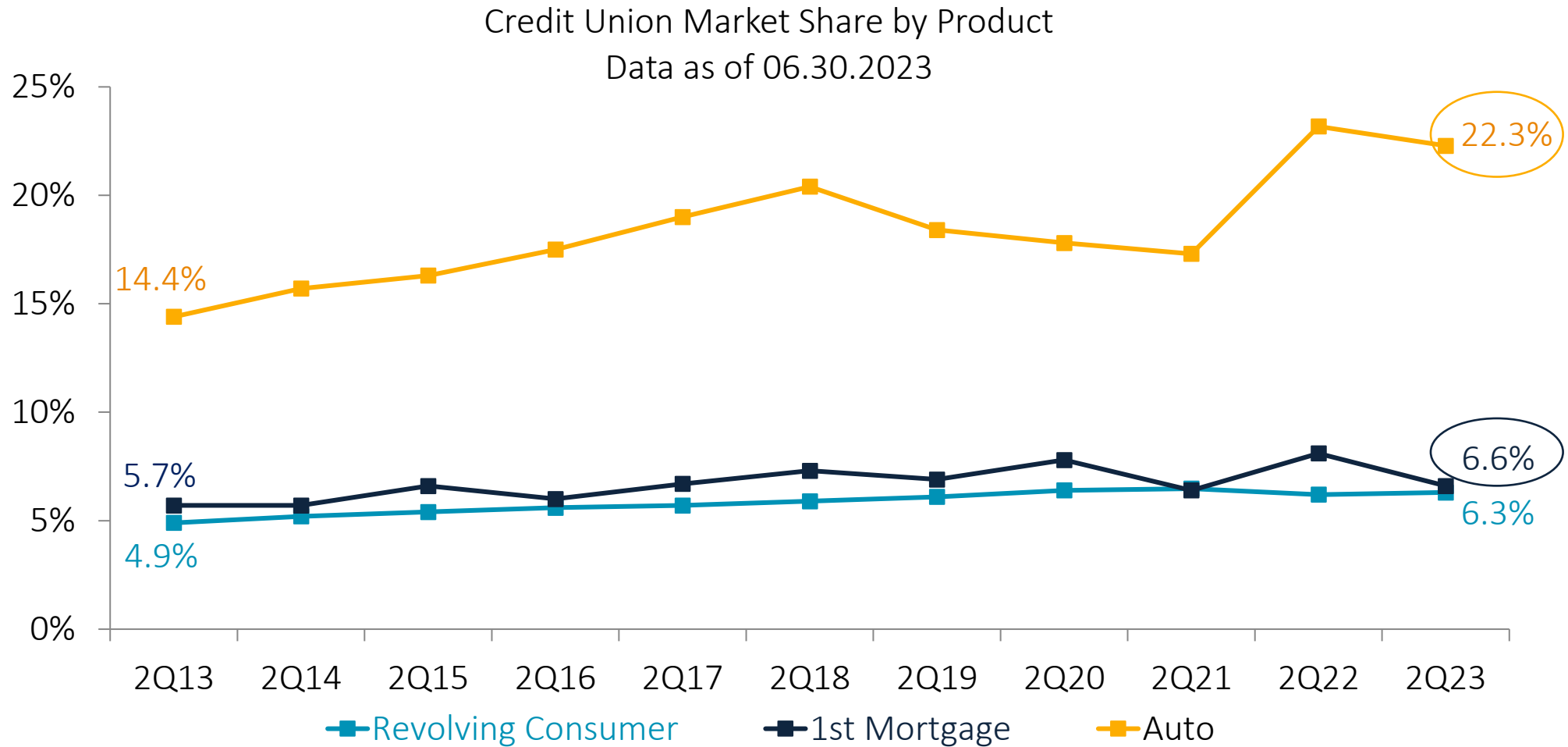
# The Fed's tightening campaign is evident in member loan demand



# But lending still follows seasonal patterns and beats 2019's pace

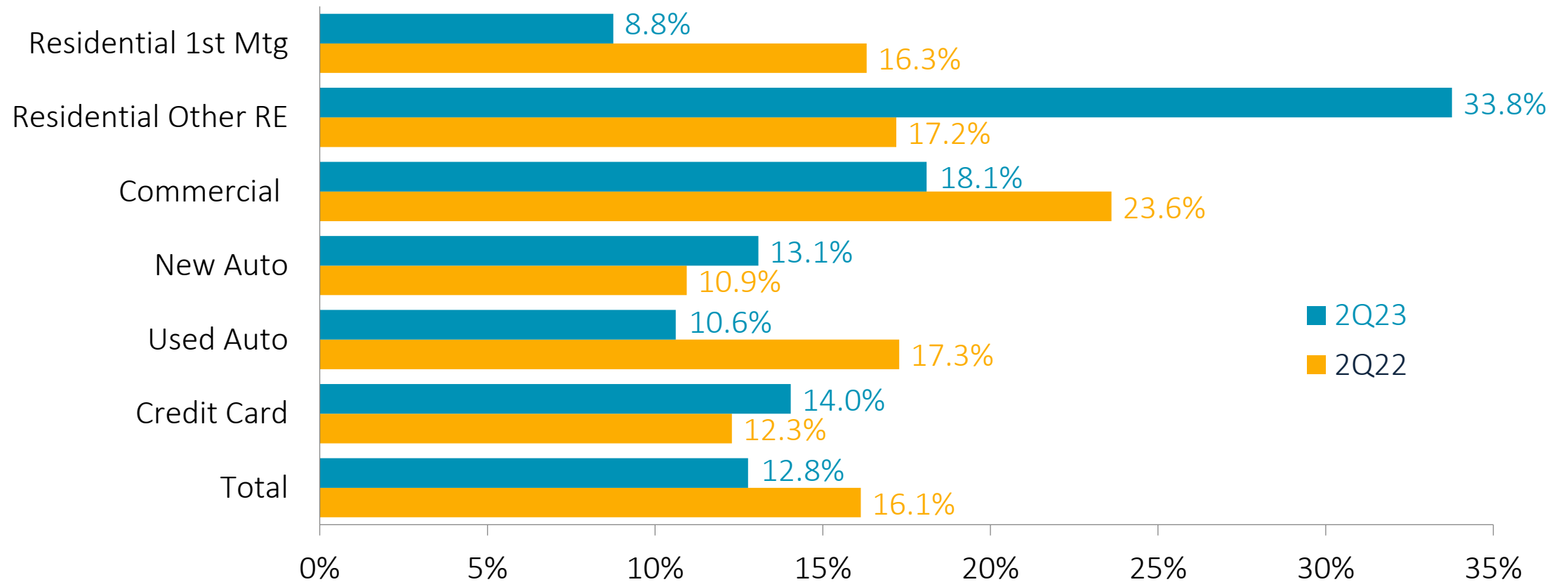


# Auto and mortgage market share fall slightly below peak levels, but remain strong

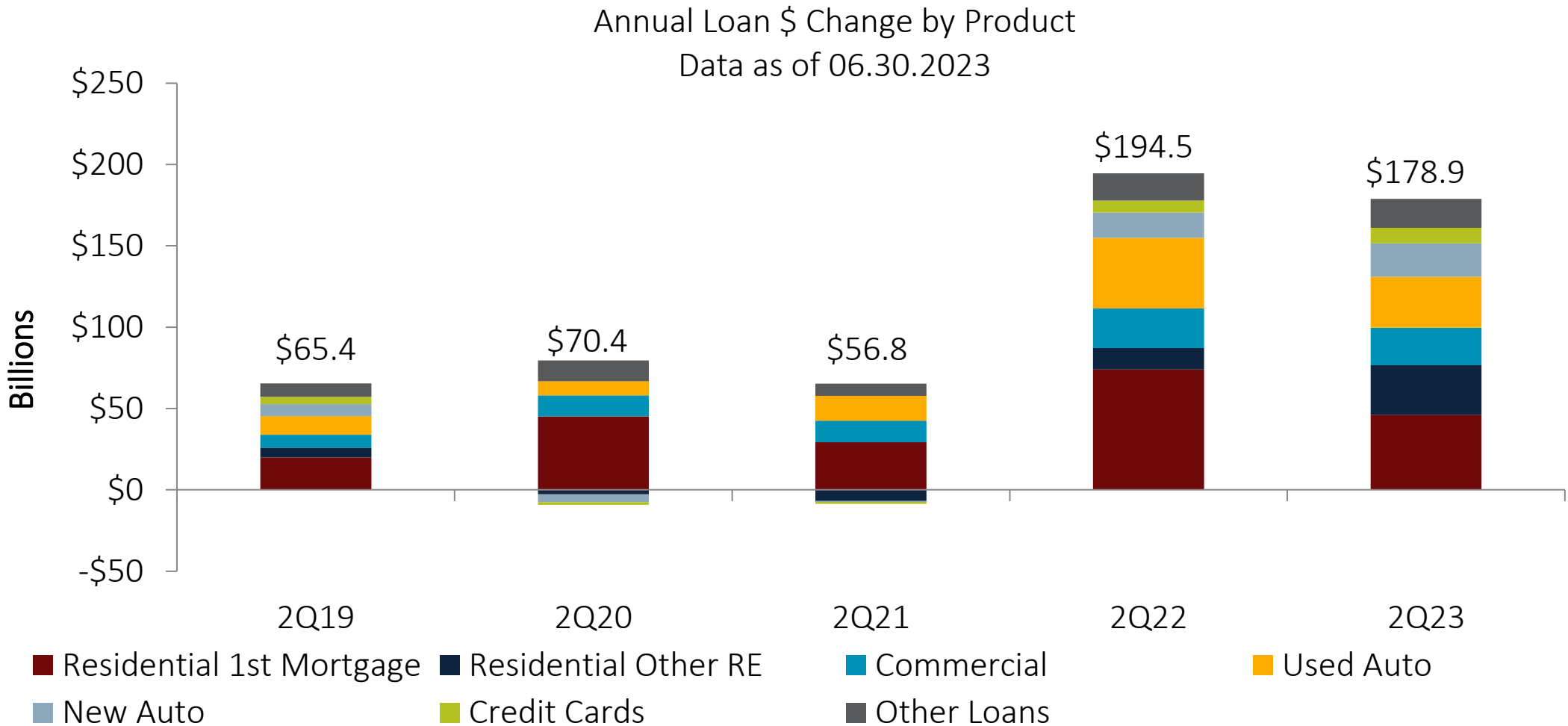


# Loan balances are growing at a strong pace in all categories, with HELOCs and commercial loans leading the way

Annual Growth in Loans Outstanding  
Data as of 06.30.2023

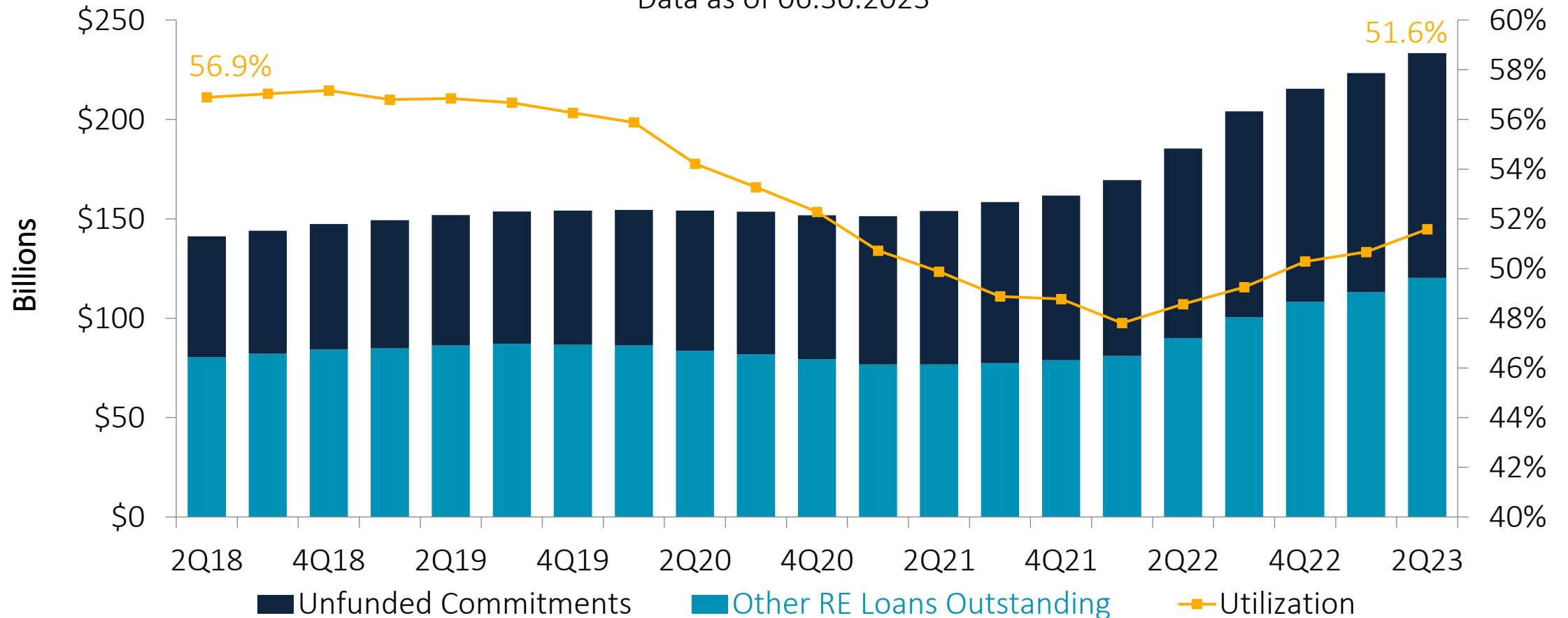


# The profile of new loans is changing from prior years



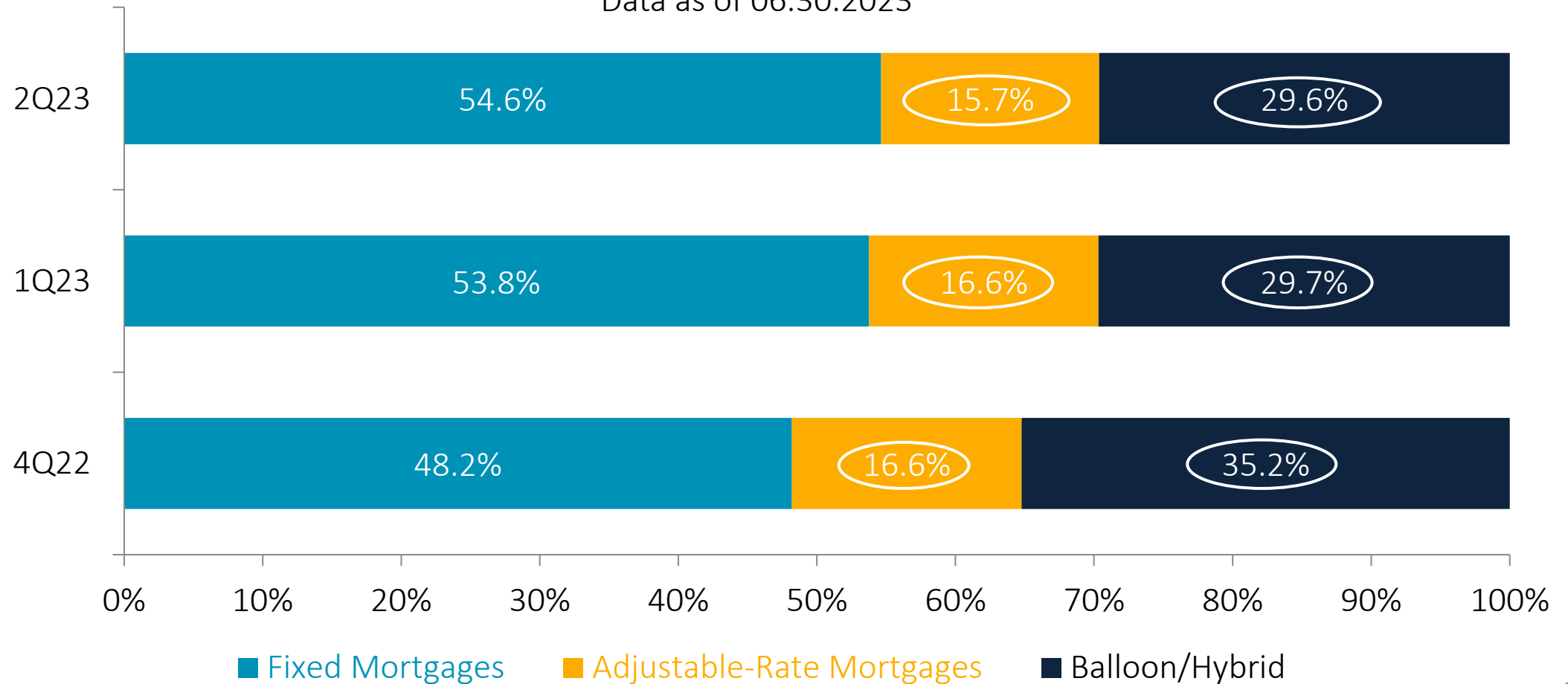
# HELOC utilization returns as members tap into higher home values

Total HELOC Lines and Utilization  
Data as of 06.30.2023



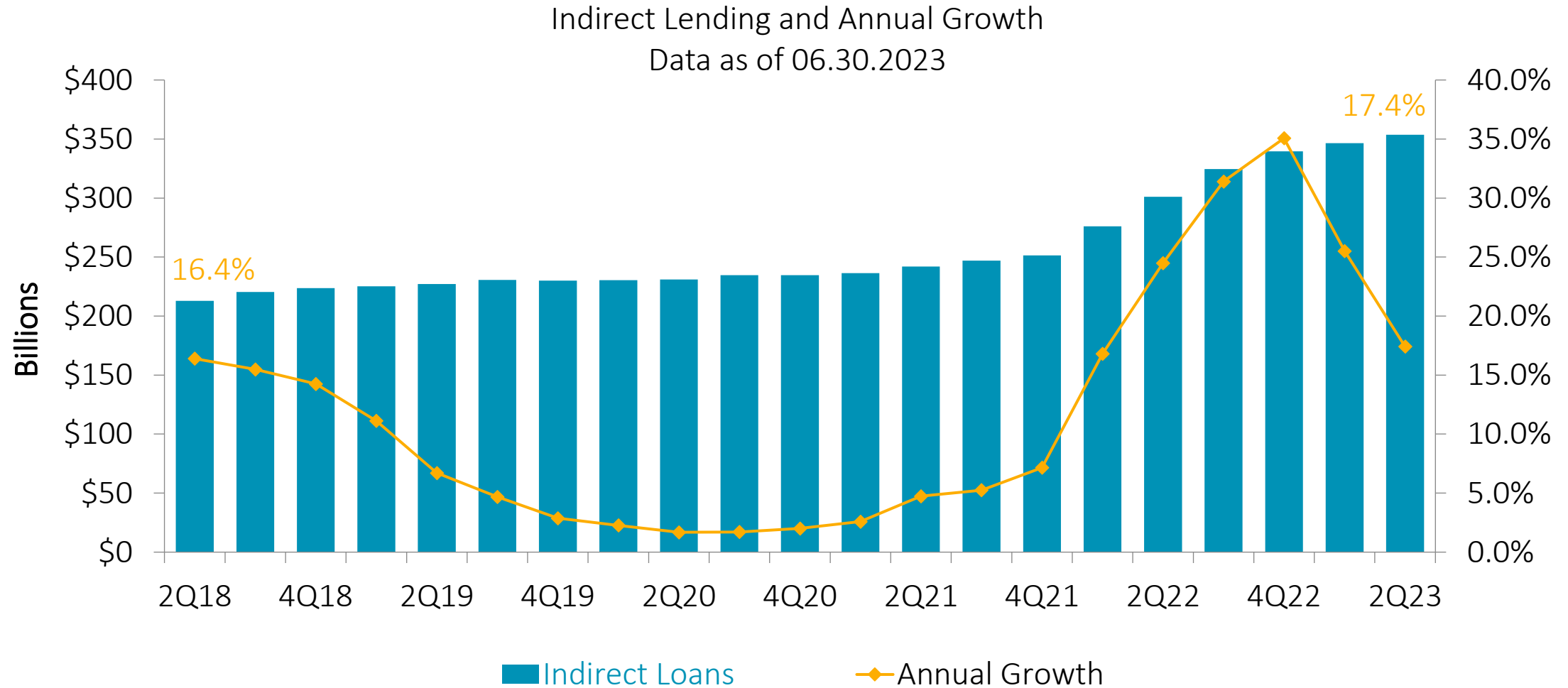
# As rates stabilize, fixed mortgage originations rebound

1<sup>st</sup> Mortgage Origination Breakdown by Type  
Data as of 06.30.2023



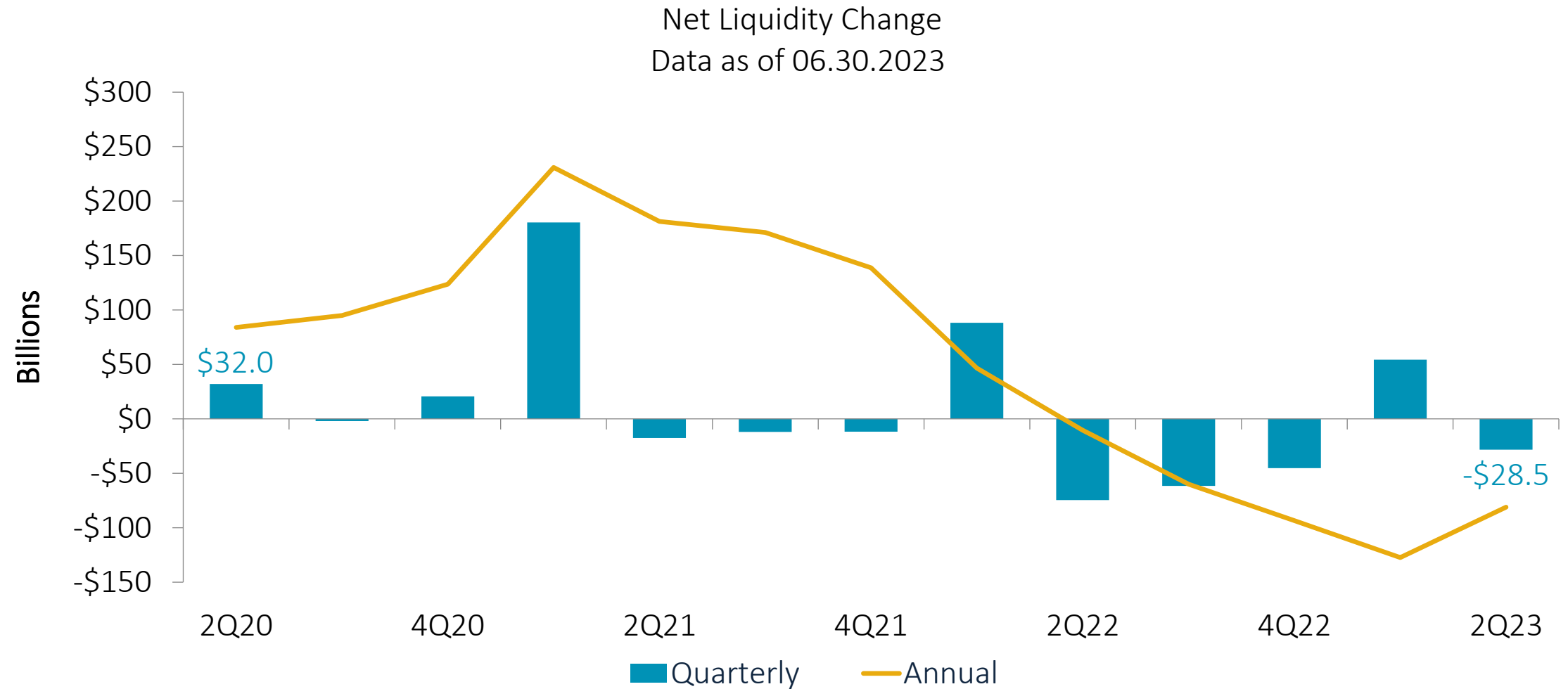


# Indirect loan growth slows for second straight quarter, likely with intention



# Liquidity

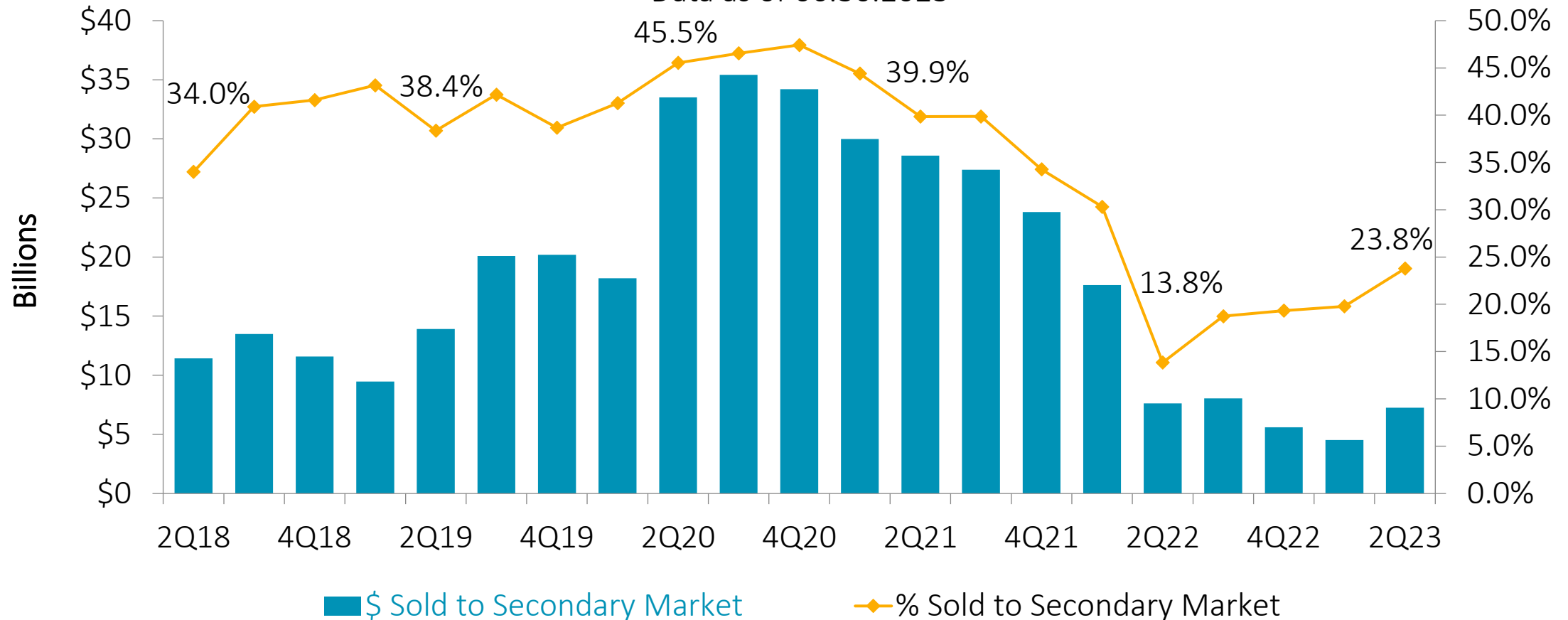
# Liquidity follows seasonal trends and declines slightly in the second quarter



# Credit union mortgage sales pick up in the second quarter, supporting liquidity management

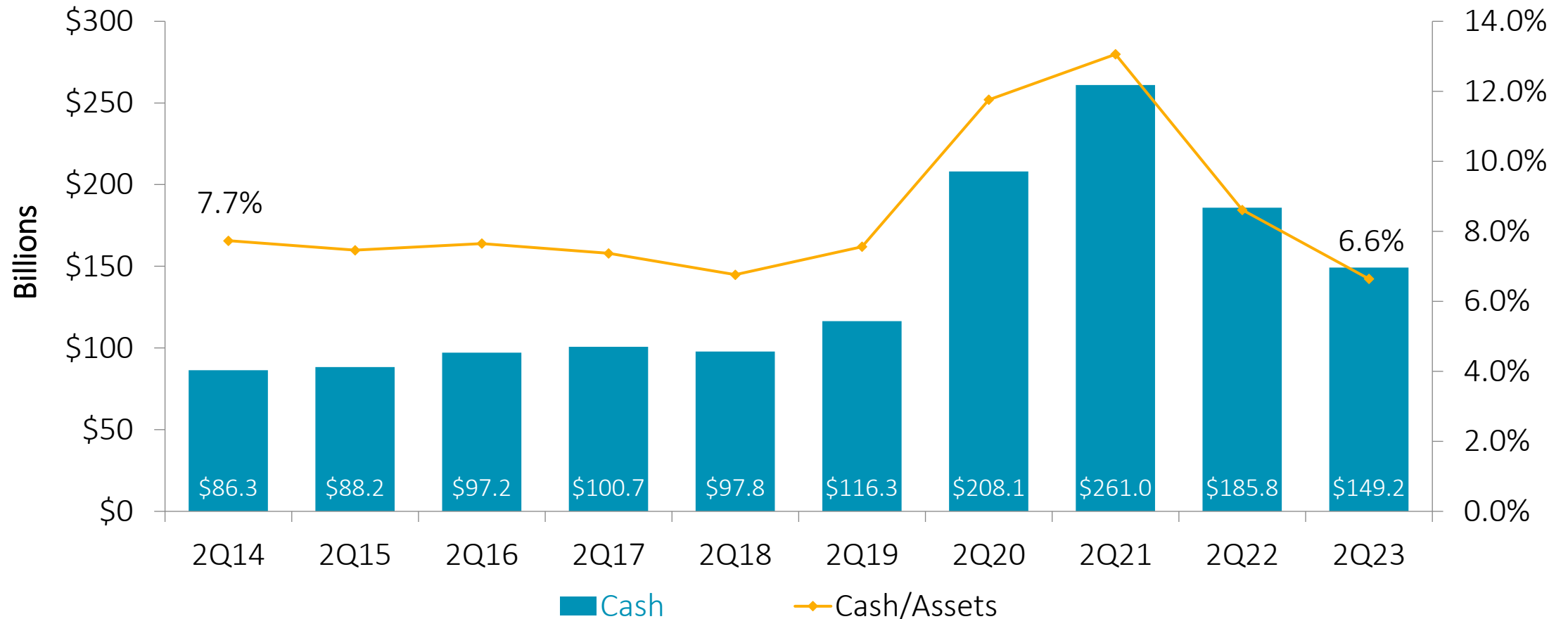
\$ Sold to Secondary Markets by Quarter and % Relative to Mortgage Originations

Data as of 06.30.2023

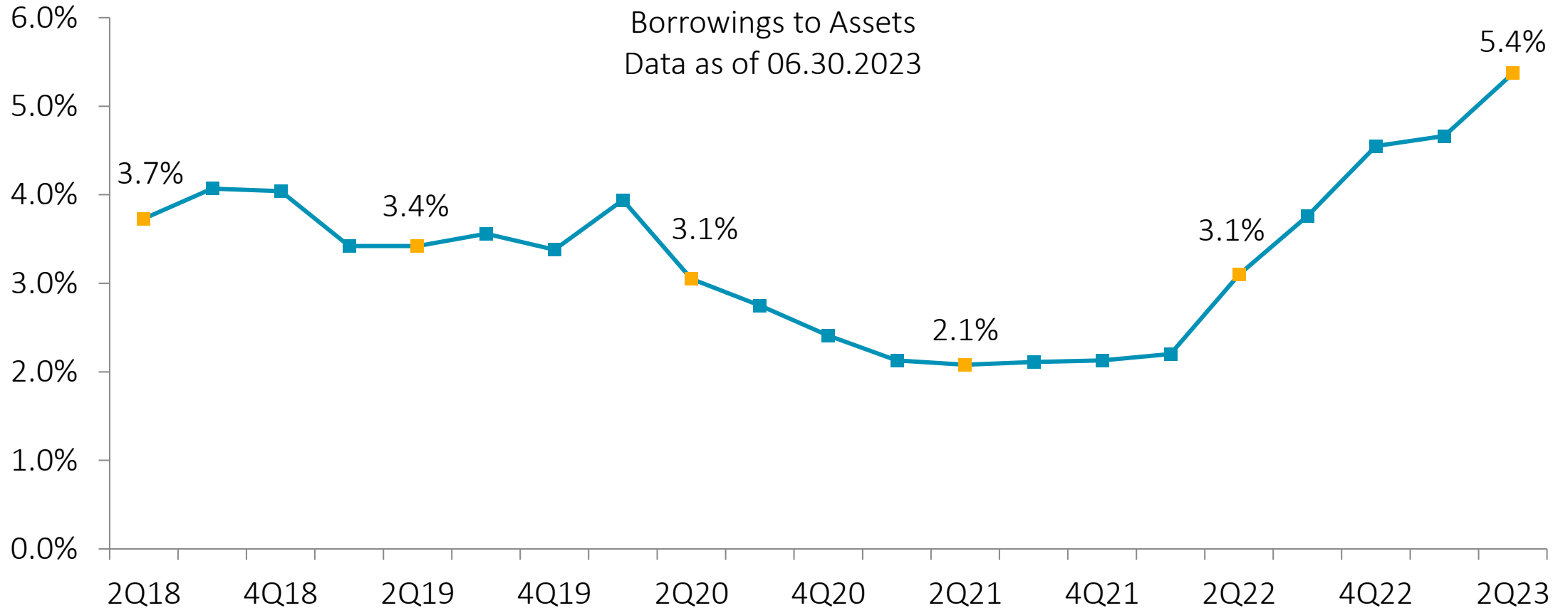


# Cash balances match 2018 level as a percentage of assets

Cash Balances and % of Total Assets  
Data as of 06.30.2023



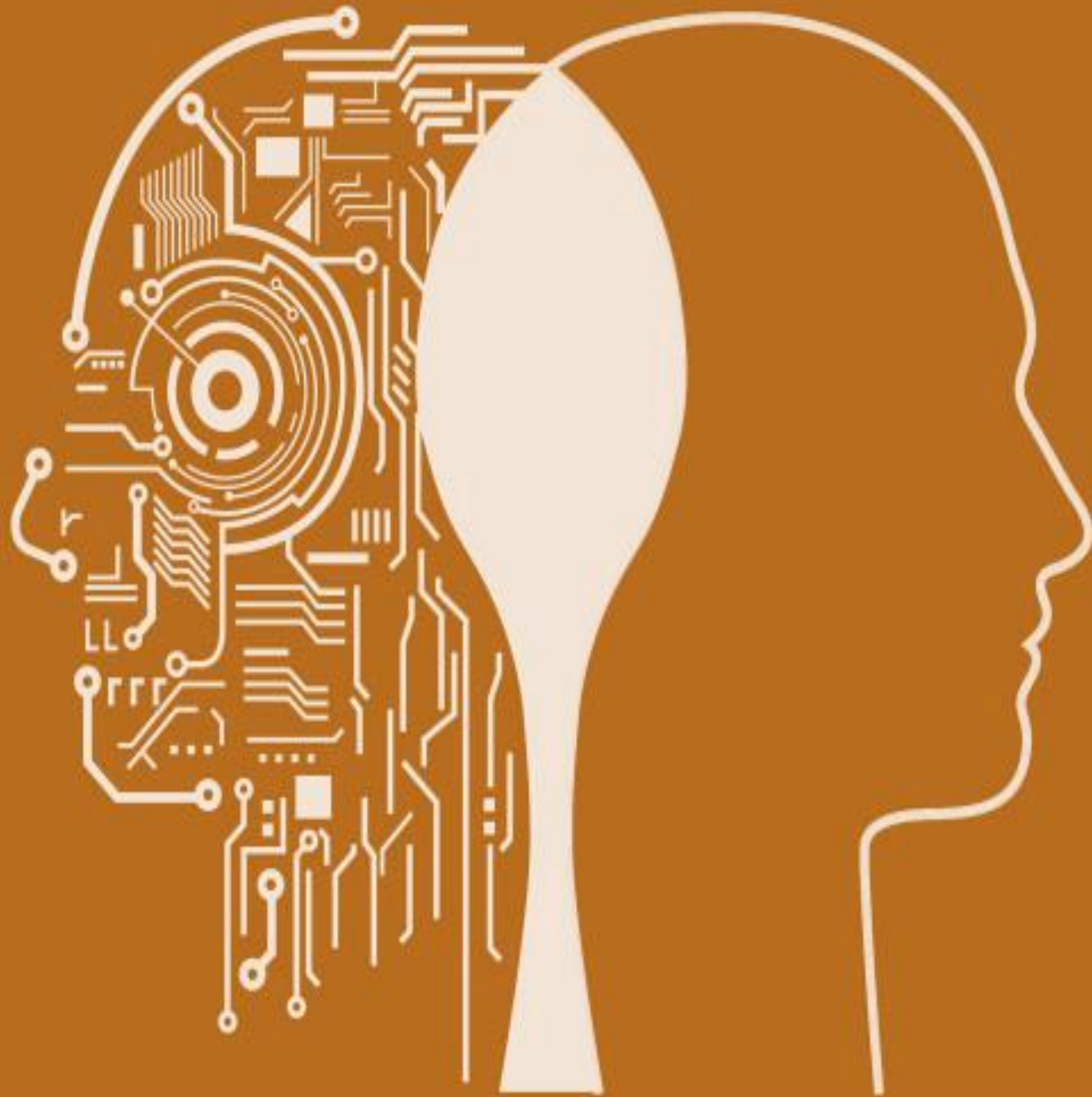
# Credit unions have utilized borrowings to diversify funding channels and provide liquidity for member lending





**Kal Majmundar, CTO**

# AI disruption in Banking: Are you ready?





# Headline News

Bank of America's Erica Tops 1 Billion Client Interactions, Now Nearly 1.5 Million Per Day

Software company CEO says using ChatGPT cuts the time it takes to complete coding tasks from around 9 weeks to just a few days

AI and ML in the fight against banking fraud

## AI making advancements in health care, helping to perform surgery

Cardiologist Dr. Kevin Campbell details first-of-its-kind, A.I.-enabled health care technology that makes him 'better at [his] job.'

AI method predicts how cells are organized in disease microenvironments

*Artificial Intelligence is set to play a crucial role in the future of many industries, including digital healthcare. It could enable doctors and nurses to make faster, more accurate decisions.*

JPMorgan Chase made headlines after it filed a trademark application for a new artificial intelligence invention that would select investments for customers.

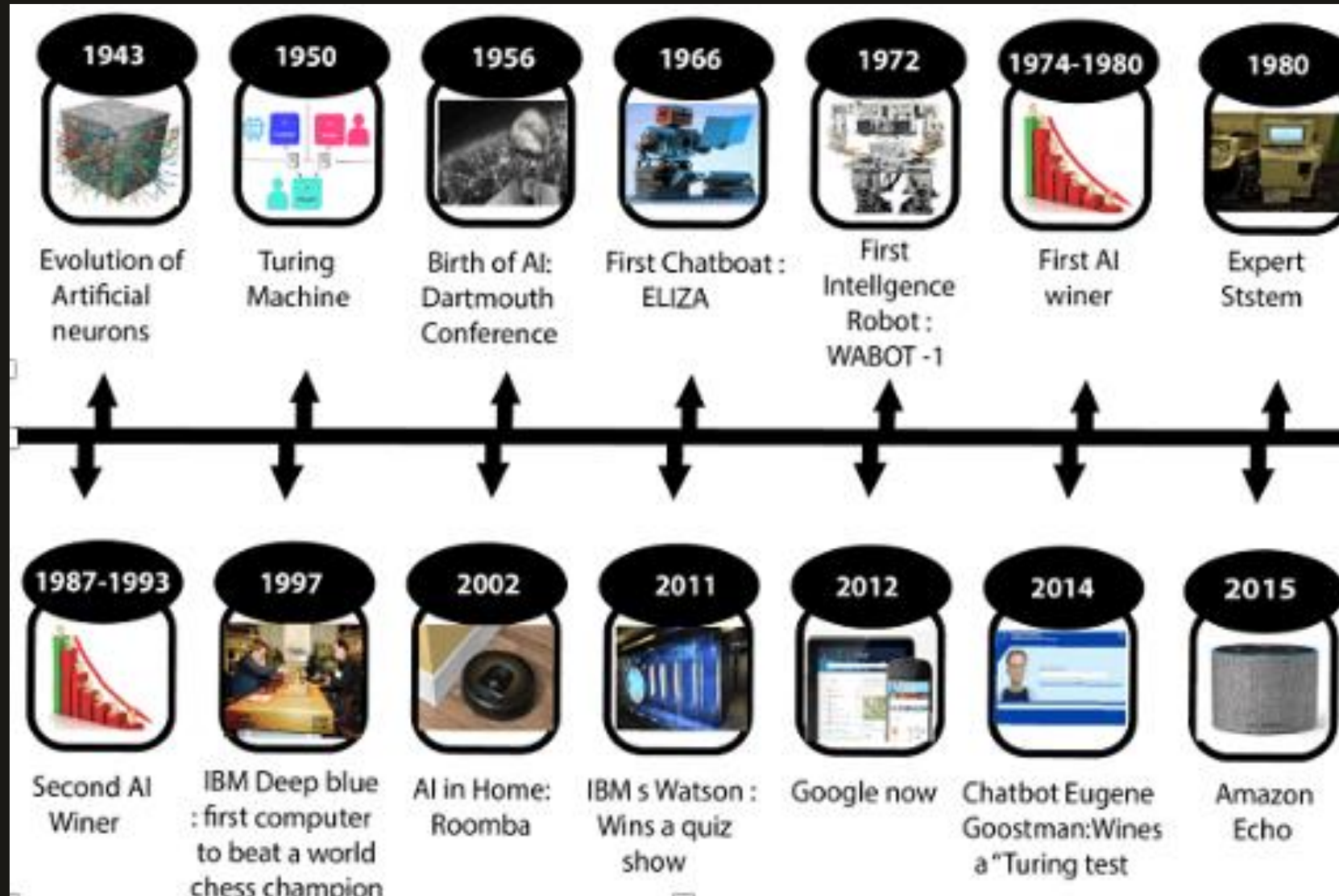
The generative AI tool lets you "try on" clothes from hundreds of brands online by displaying them on models of a wide array of sizes and skin colors.

A wave of advanced machines is coming to the company's facilities (Amazon) thanks to better AI and robots smart enough to work with—and without—humans.

**5 Stocks That AI Predicts Will Double Your Money in a Year**  
It turns out that AI can also help investors beat the market

When VantagePoint's Advanced A.I. "Brain" recently predicted 4 trend reversals for Moderna (NASDAQ:MRNA) – investors had the potential to **capture 316.19% in gains**. But unfortunately, many retail investors failed to take it seriously and missed out.

# The Dawn of Artificial Intelligence



# AI Outlook for the rest of the decade

General

## +26%

Up to 26% boost in GDP for local economies from AI by 2030

## \$15.7T

Potential contribution to the global economy by 2030 from AI

## \$1.8T

Expected AI market size by 2030 (37.3% from 2023 to 2030)

The Market For Artificial Intelligence (Ai) Is Expected To Show Strong Growth In The Coming Decade.

Banking Specific

## \$64.03 B

AI Banking Market Will Grow to \$64.03 Billion by 2030 at a CAGR of 32.6% from 2021(\$3.3B)

## \$1T

Additional value in banking each year

## 85%

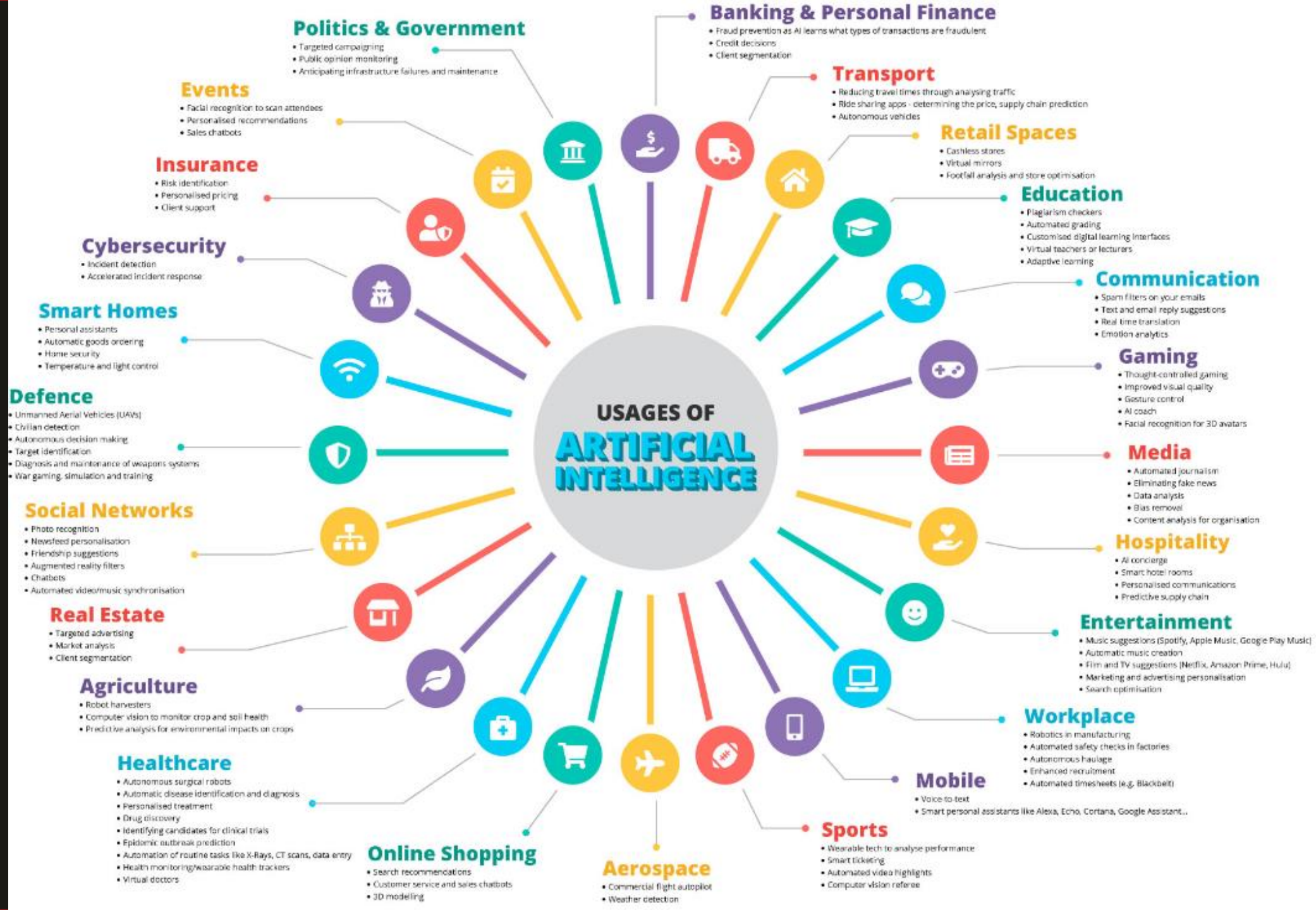
Have a “clear strategy” for adopting AI in the development of new products and services.

# AI Maturity

AI maturity measures the degree to which organizations have mastered AI-related capabilities in the right combination to achieve high performance for customers, shareholders and employees.



# Usage Of AI Is Becoming More Pervasive



# Where should you focus?



Detecting Fraud



Improving Member Experience



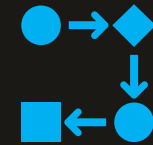
Interacting with Members



Recommending Personalized Advice (NBA,NBO)



Pricing and Credit Decisioning



Service Optimization



Improve Risk Management



Process Automation



Intelligent Payments

# Darkside of AI

Over just a few months, ChatGPT went from correctly answering a simple math problem 98% of the time to just 2%, study finds

## CFPB Issue Spotlight Analyzes “Artificial Intelligence” Chatbots in Banking

The CFPB has received numerous complaints from frustrated customers trying to receive timely, straightforward answers from their financial institutions or raise a concern or dispute.

ChatGPT opens up new avenues for hackers to potentially breach advanced cybersecurity software

50% of A.I. researchers believe there’s a 10% or greater chance that humans *go extinct* from our inability to control AI.

“The 2024 elections are going to be a mess because social media is not protecting us from false generative AI,”

AI will threaten humans in two years... The near-term risks are actually pretty scary. You can use AI today to create new recipes for bioweapons or to launch large-scale cyber attacks.”

## AI And Cybercrime Unleash A New Era Of Menacing Threats

A March report from Goldman Sachs said that generative AI tools like ChatGPT could lead to "significant disruption" in the labor market and affect around 300 million full-time jobs globally.

A **Pew Research poll** found that six in 10 U.S. adults would feel uncomfortable if their own health care provider relied on artificial intelligence to diagnose disease and recommend treatments. But the reality is that AI has entered the health and wellness space, with some doctors already harnessing its power and potential.

**As the use of artificial intelligence is spreading, it is becoming a threat to financial markets. Several banks have already banned it.**

The main privacy concerns surrounding AI is the potential for data breaches and unauthorized access to personal information. With so much data being collected and processed, there is a risk that it could fall into the wrong hands, either through hacking or other security breaches.

# Risks: Unintended Consequences of AI



Potential Risks

 **Individuals**

Physical and Digital Safety

Privacy and Reputation

Financial Health

Equity and Fair Treatment

 **Organizations**

Financial Performance

Nonfinancial Performance

Legal and Compliance

Reputational Integrity

Root Causes

**Bias**

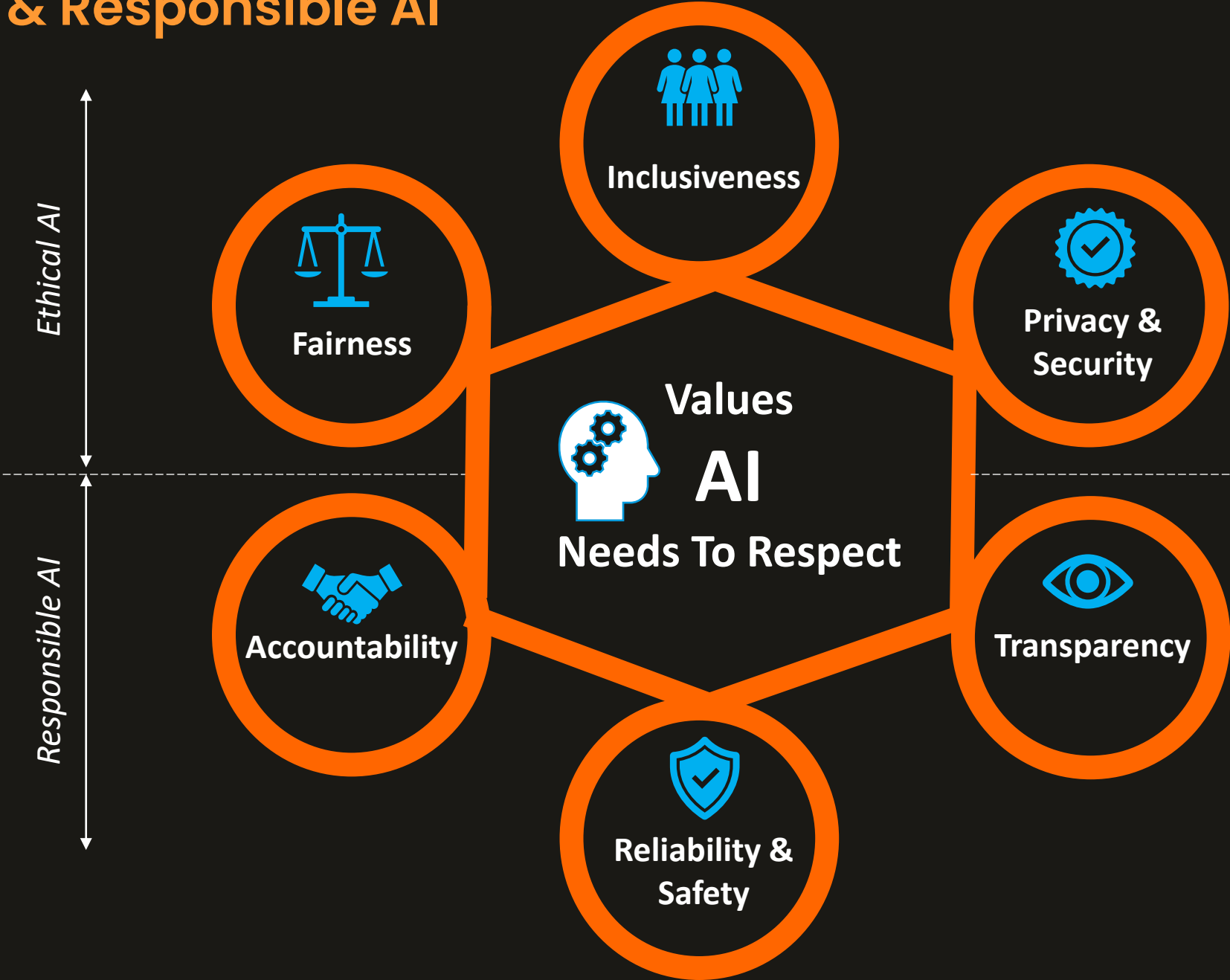
**Interpretability**

**Hallucination**



# Designing Ethical & Responsible AI

With Great AI  
Comes  
Great  
Responsibility



# Why Public ChatGPT is not safe?

## *Privacy and Security*

- 1 Intellectual Property:** Information entered into Public ChatGPT can become part of its training set
- 2 Data Privacy:** OpenAI may share ChatGPT user information with third parties without prior notice
- 3 Cyber Concerns:** Personal or sensitive information stored by OpenAI could be accessed by hackers.
- 4** Productivity enhancer for everyone, including the hackers

# Critical Success Factors



Alignment of AI with business strategy.



Build responsible and ethical principles into AI.



Great AI needs great data.



Skills & AI Literacy



Improve business processes first.



Commercial talk, not an AI hype



Platforms and Partners



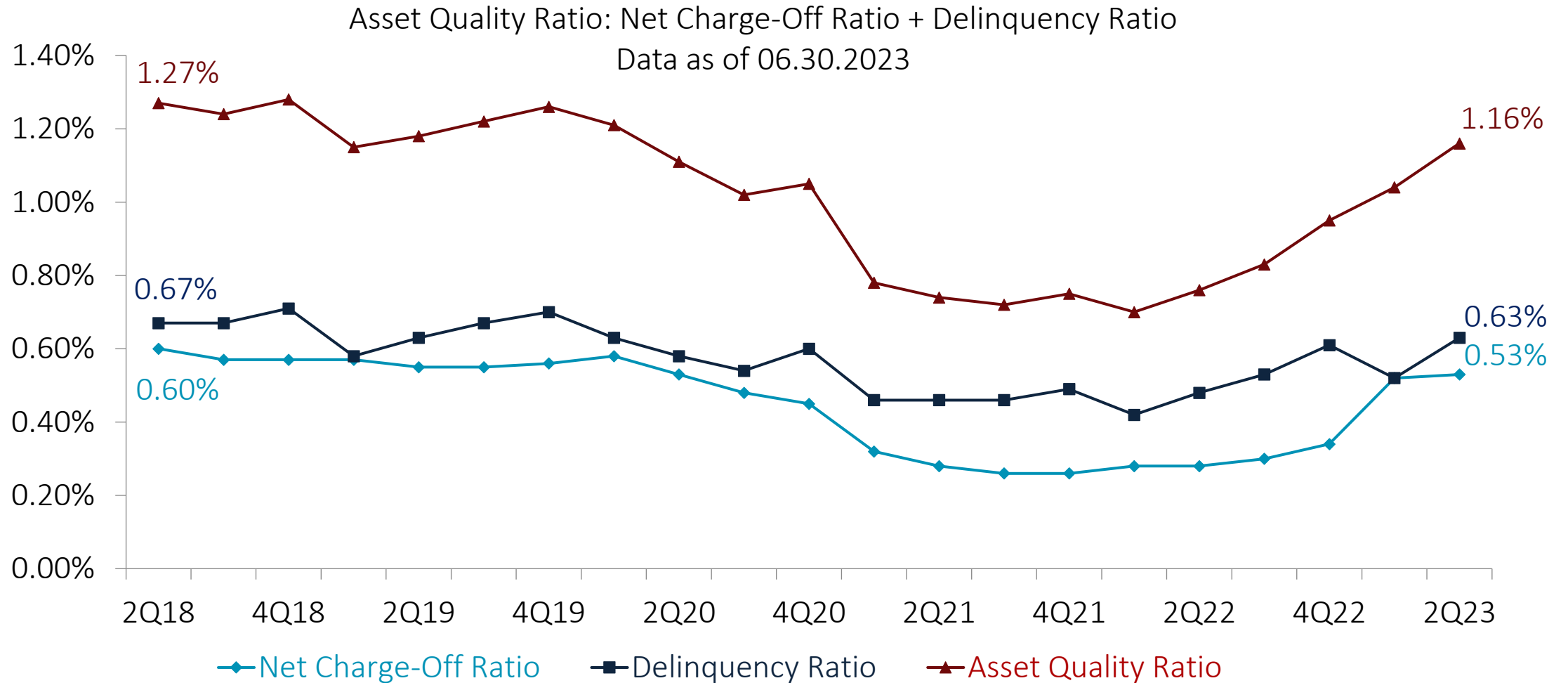
Culture

**“The Art of Possibilities”**

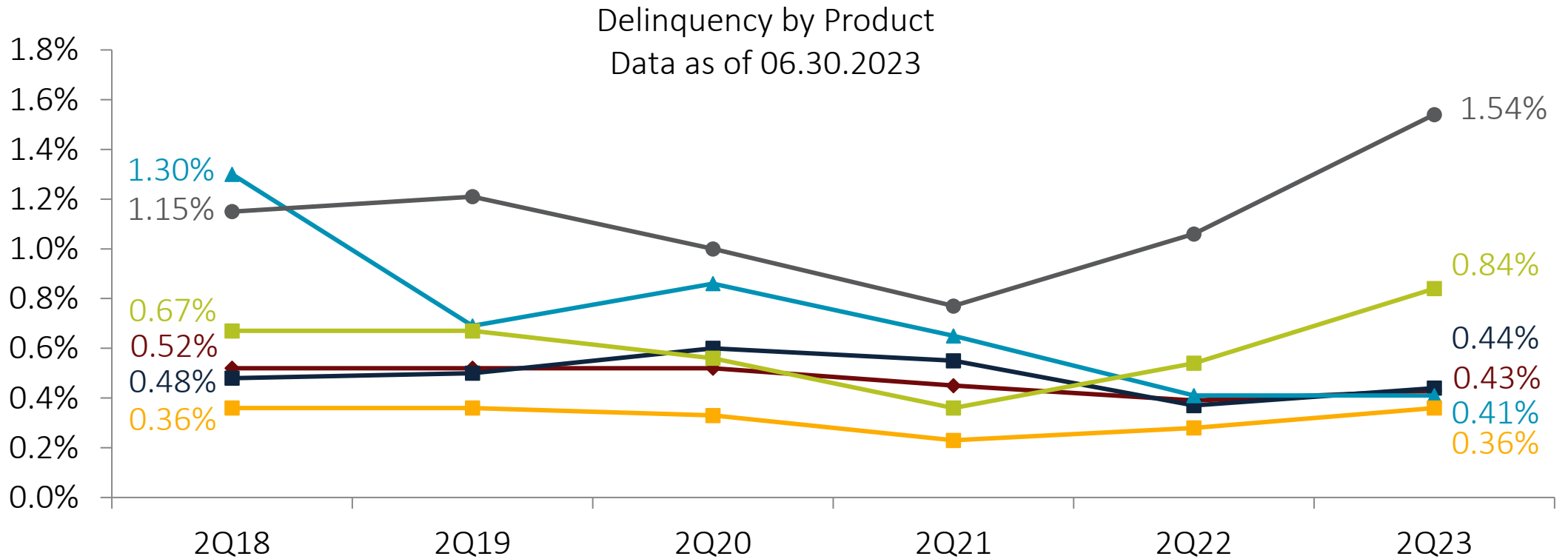
**Thank you.**

# Asset Quality

# Asset quality is returning to historical norms



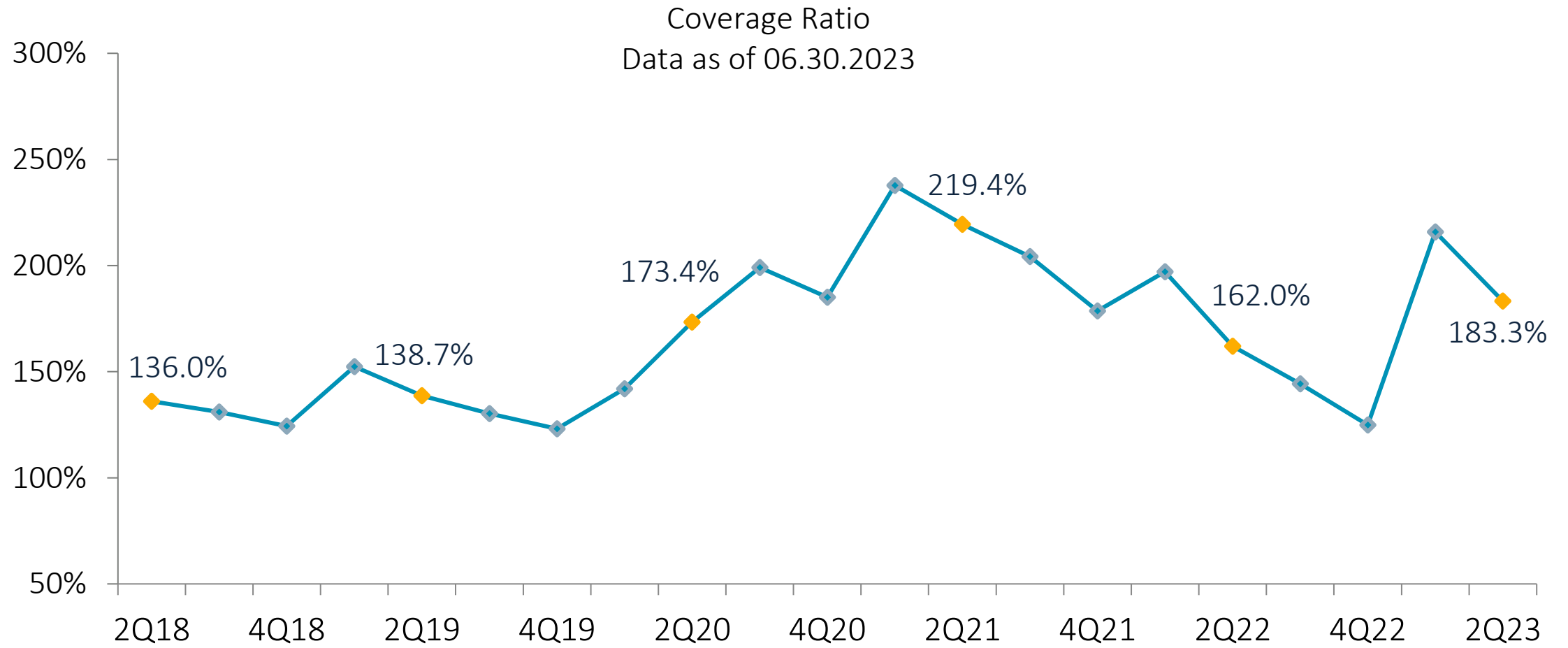
# Delinquency centralized in consumer loan types



◆ Residential 1st Mortgage Delinquency  
▲ Commercial Delinquency  
■ Used Auto Loan Delinquency

■ Residential Other RE Delinquency  
■ New Auto Loan Delinquency  
● Credit Card Delinquency

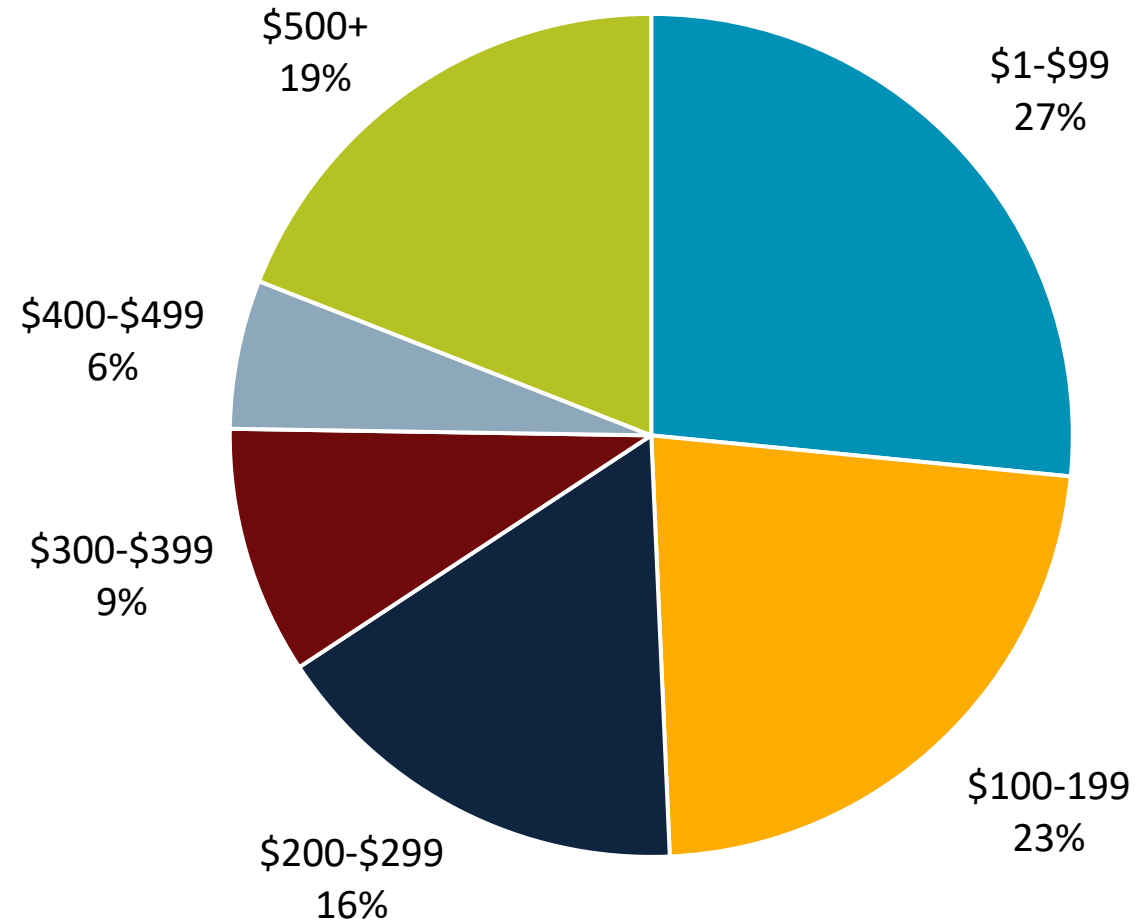
# Credit unions are well-reserved for potential loan losses





# Consumers to resume student loan payments in Oct 2023

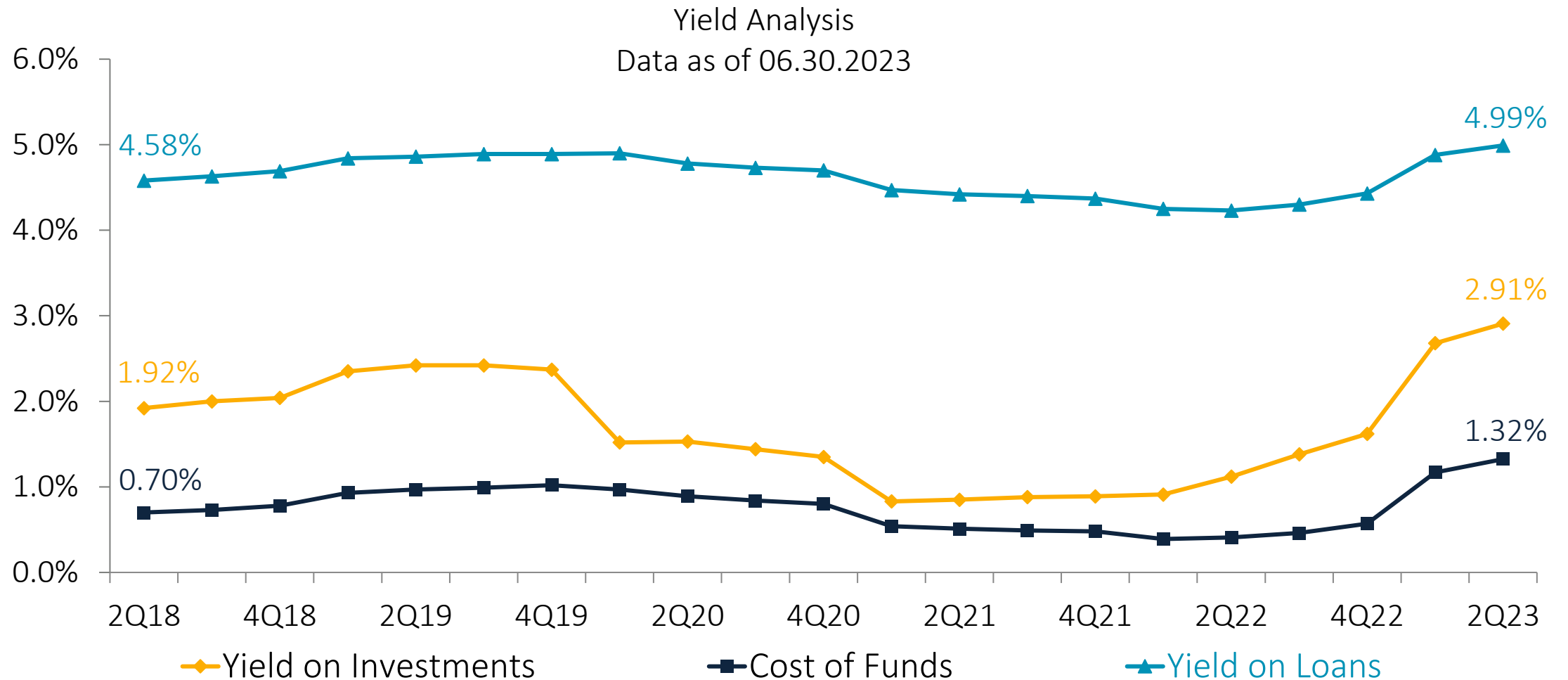
Distribution of Expected Payment Amount for Consumers Resuming Payment



Data Source: TransUnion Study, "Implications of the End of Pandemic Era Student Loan Forbearance."

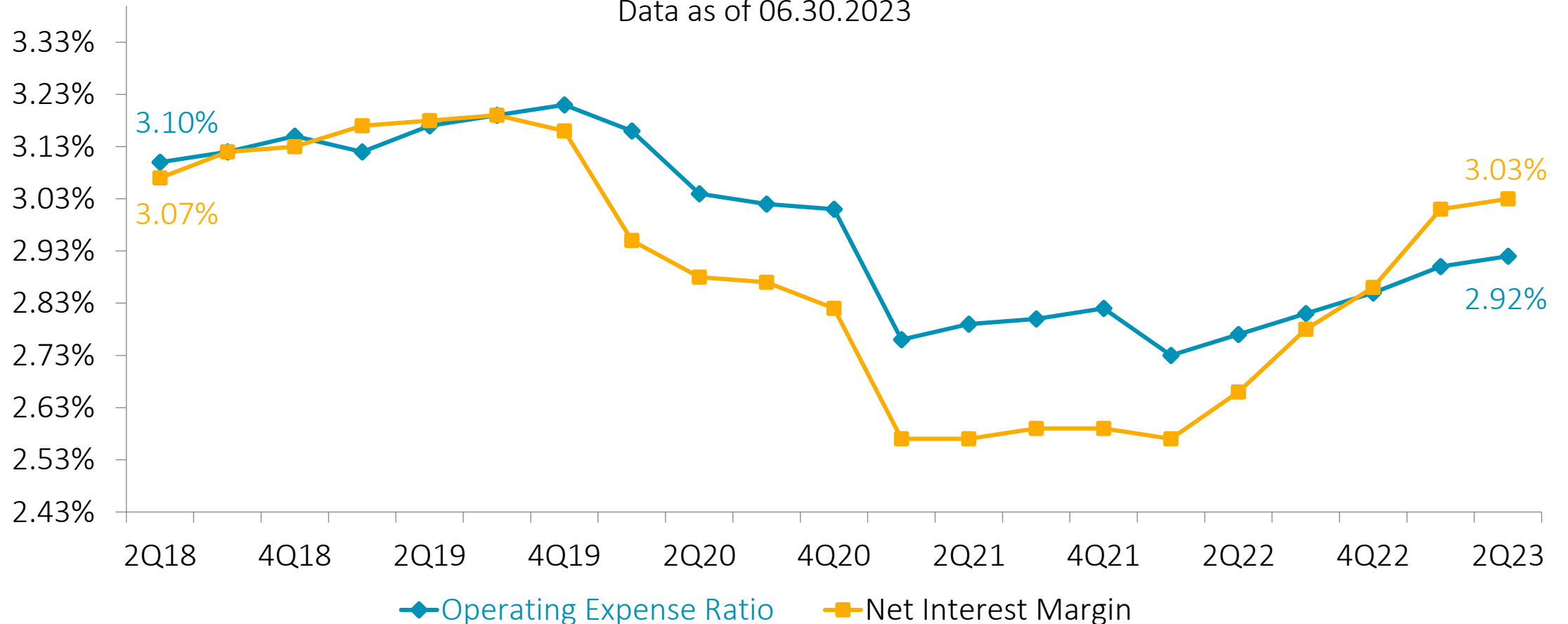
# Earnings & Capital

# Loan yields are moving up in line with cost of funds



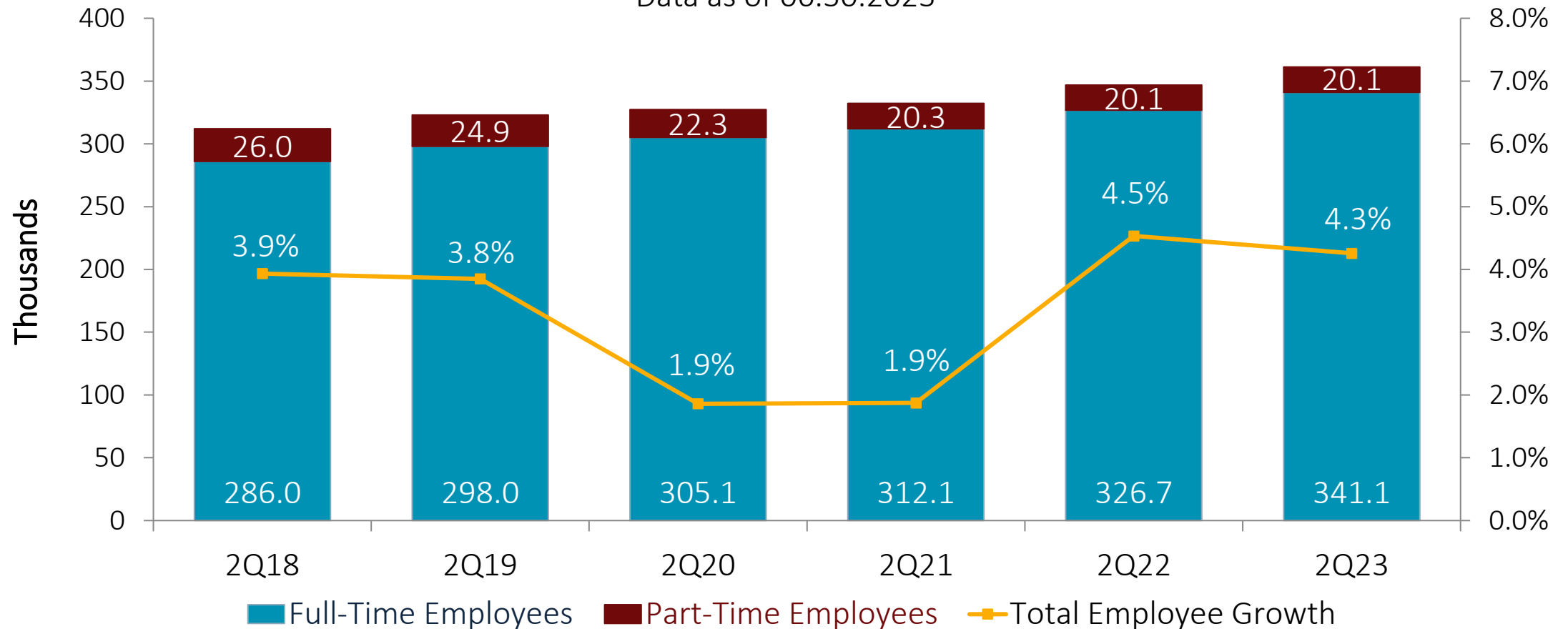
# Net interest margin continues to trend up, allowing credit unions to continue to invest in talent and technology

Net Interest Margin vs. Operating Expense Ratio  
Data as of 06.30.2023



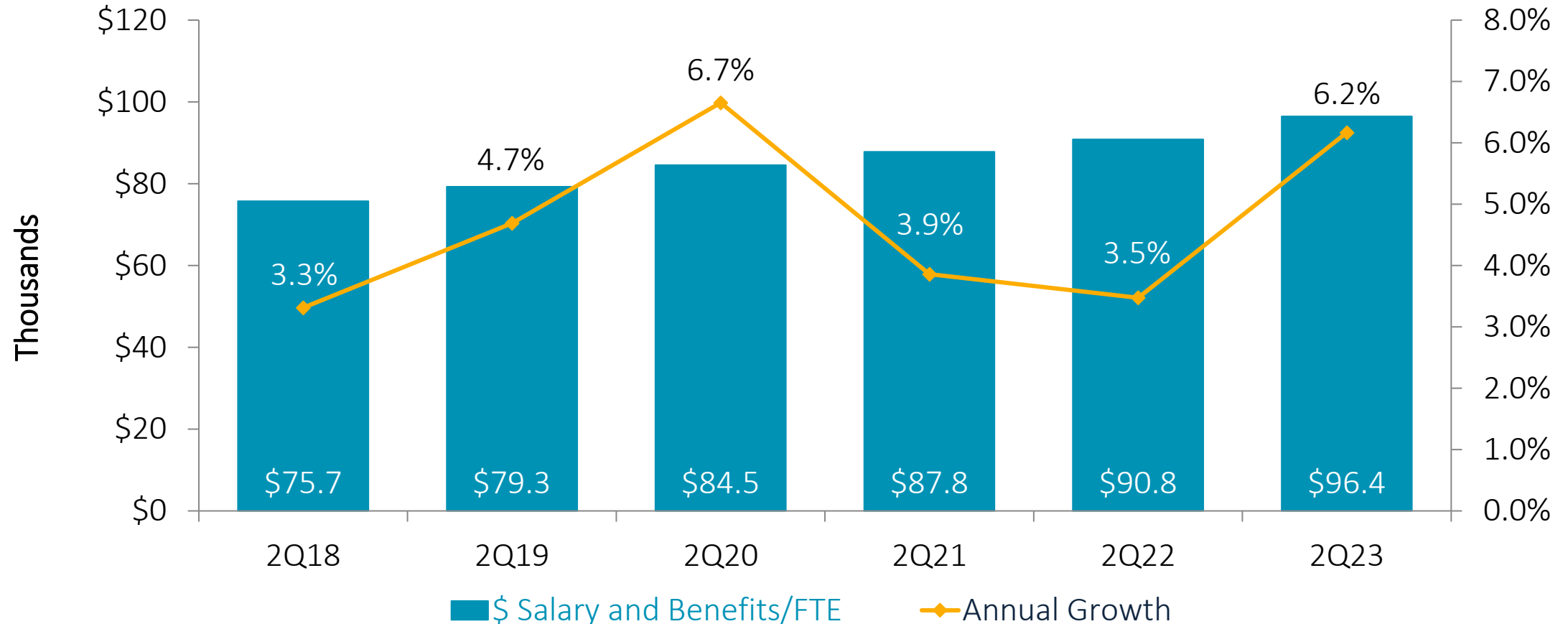
# Credit unions are growing their employee base to serve a growing membership

FT & PT Employees and Annual Total Employee Growth  
Data as of 06.30.2023

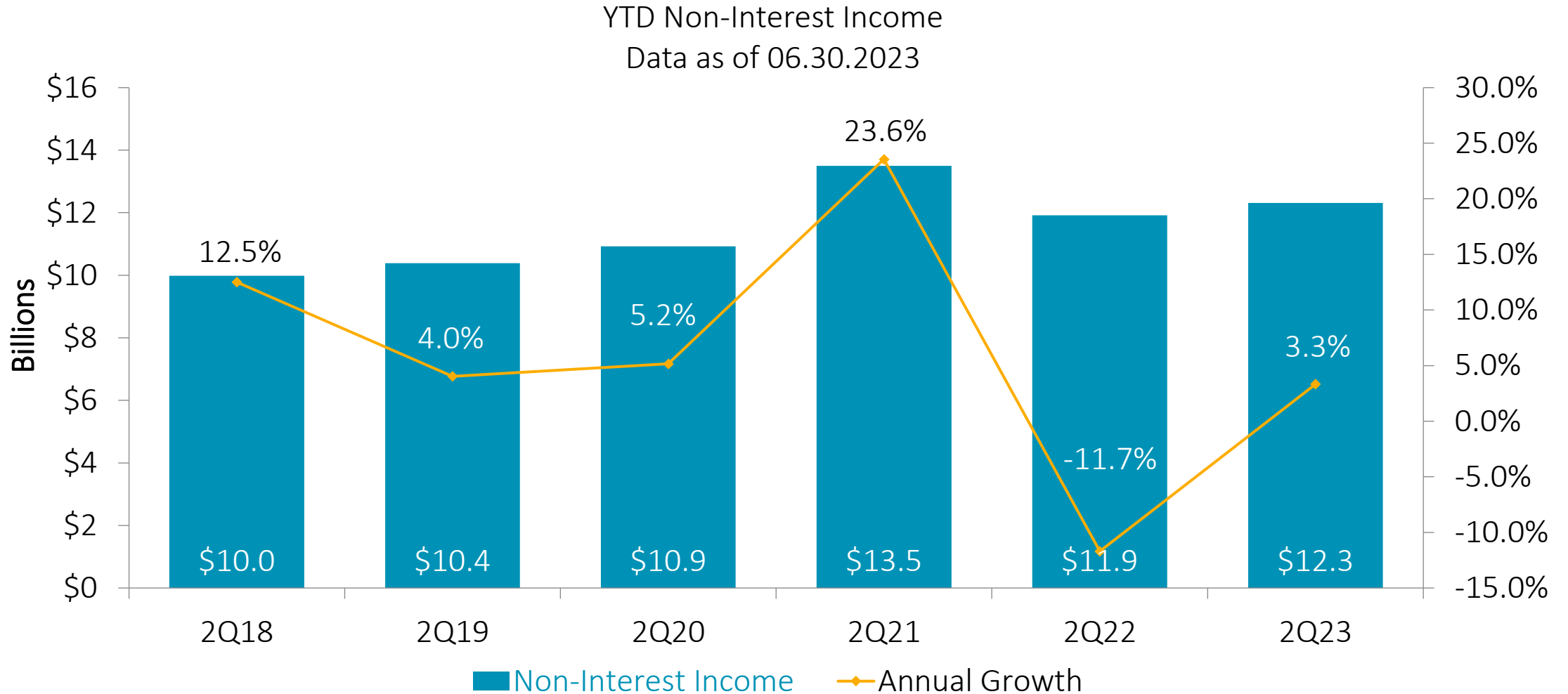


# Employee compensation expands as credit unions compete for and reward talent

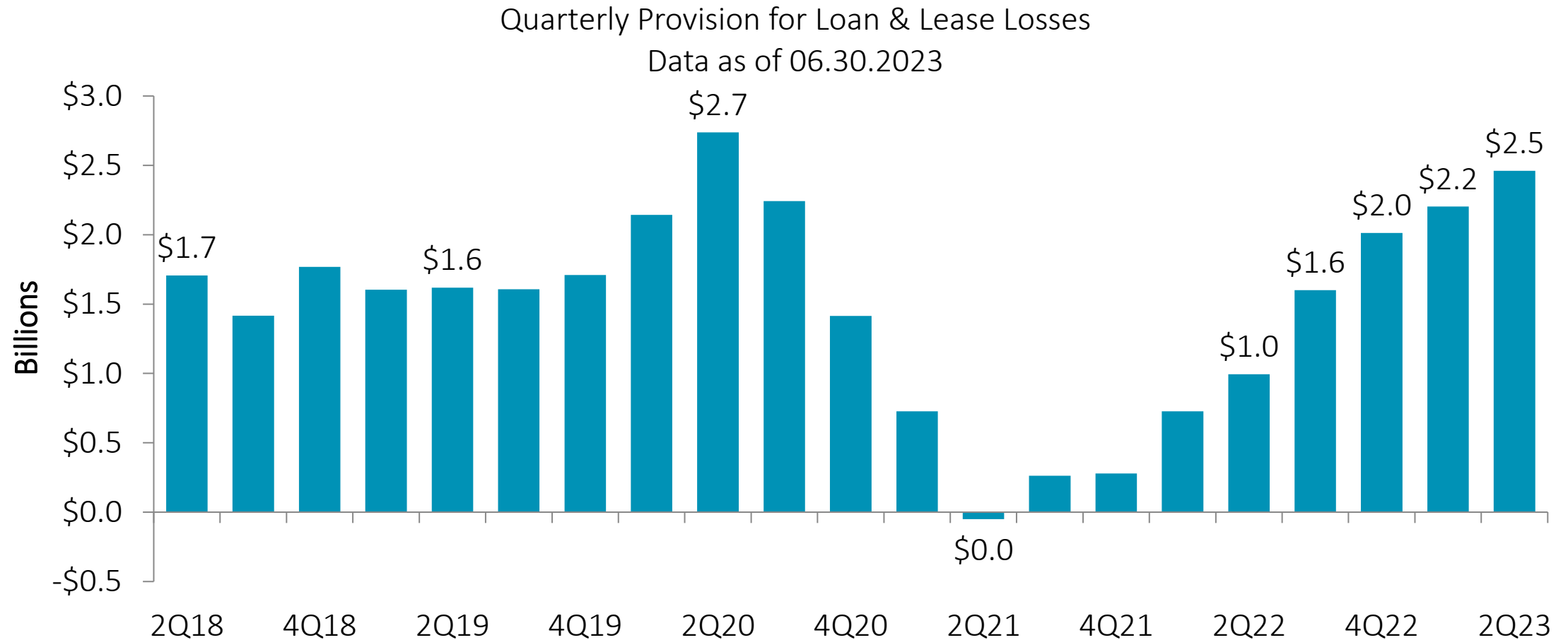
\$ Salaries & Benefits per FTE and Annual Growth  
Data as of 06.30.2023



# Non-interest income increases 3.3%

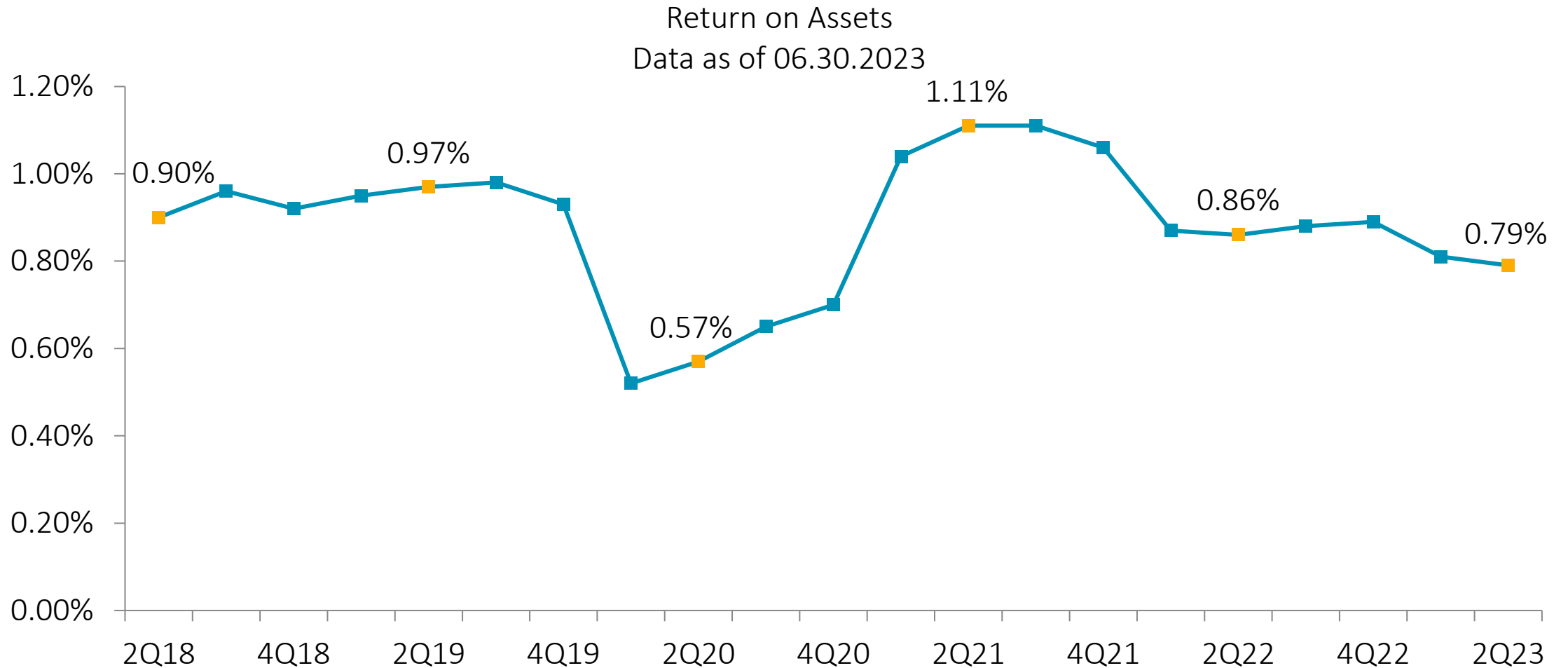


# Credit union provision expenses are rising as leaders prepare to serve



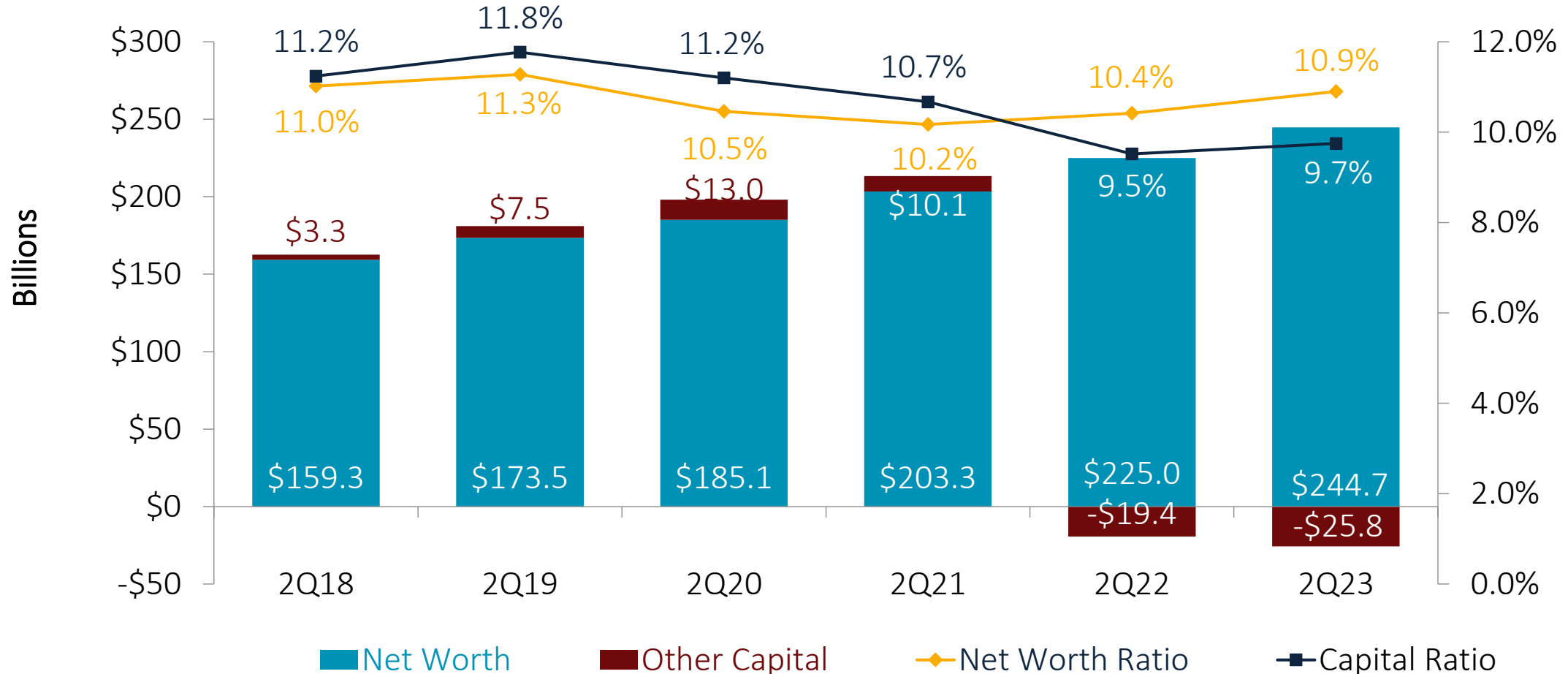


# ROA dips – mainly due to careful provisioning – but remains stable



# Net worth and capital ratios are rising

Net Worth and Other Capital  
Data as of 06.30.2023



# Lessons & Looking Forward

- Don't let recency bias cloud perception of performance! We are returning towards normal patterns after three unusual years.
- The economy is slowing, but that is the intent of current monetary policy. Membership is growing in both size and engagement level.
- Remember that in challenging economic times, credit unions move toward opportunities rather than pull back. This is the credit union difference. A position of cautious optimism will help us leverage that difference to continue serving members.

# THANK YOU FOR WATCHING



1001 Connecticut Ave NW  
Ste. 1001  
Washington, DC 20036



support@callahan.com  
www.callahan.com



800-446-7453