

Banking for the Next Decade

Tony DeSanctis | Senior Director

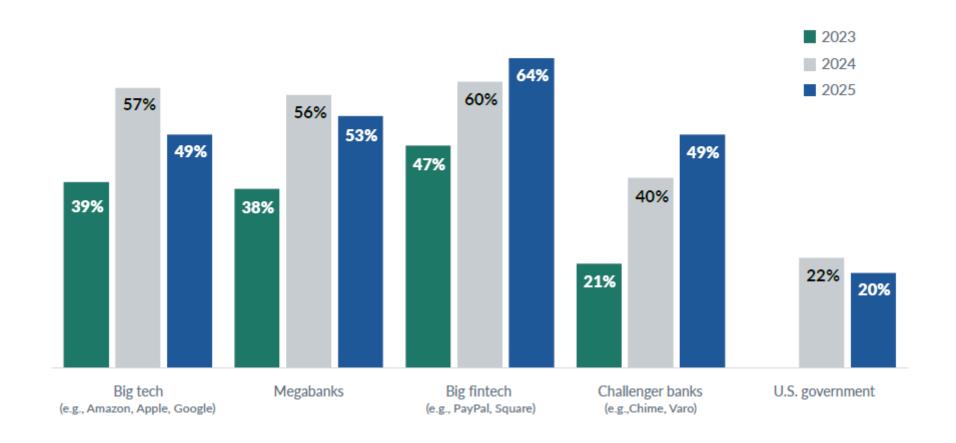


# **Financial Services** in 2025...



## What is Going on in Banking

Percentage of Bank and Credit Union Executives Who Consider the Following Types of Companies to be a "Significant Threat" in the Coming Decade



### Who are You Most Worried About?

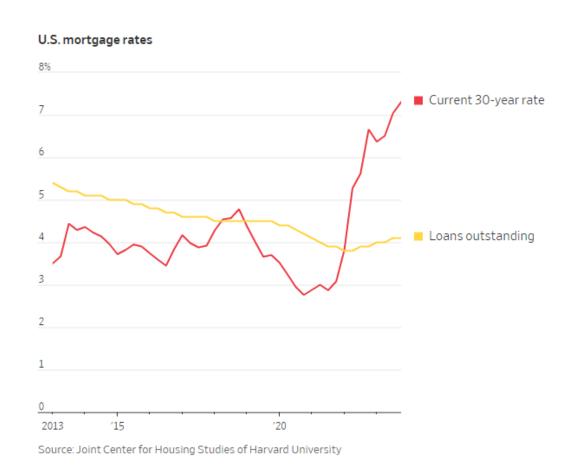


# New Administration Impact???



## Mortgage "Lock-In- Effect" Causing Housing Market Freeze

#### • Rate Gap in Offer vs Outstanding Mortgages





## Record Homeowner's Equity- Can Anyone say HELOC?

# U.S. homes, value of owners' equity \$40 trillion 35 30 20 15 July 1986 \$3.65 trillion

Source: St. Louis Fed

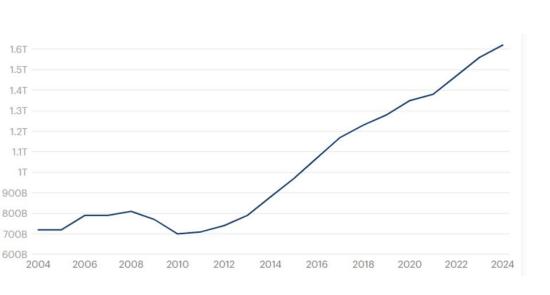
#### **3 Categories of Consumers**



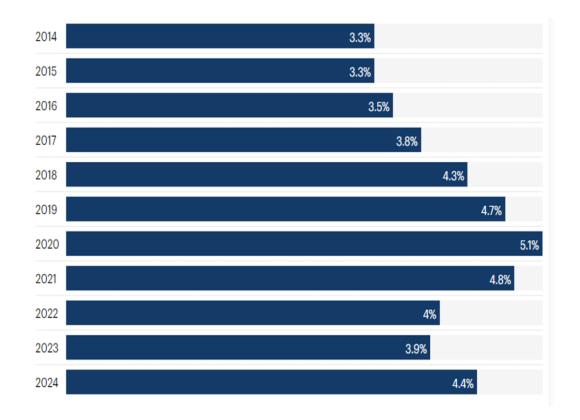


## Auto Lending; Balances & Delinquencies on the Rise

Total Auto Loan Debt Balance



% of Auto Loans 90+ days Delinquent



# Mortgage Originations; Radical Shift in Leaders

#### Mortgage is a Case Study

#### In 2008, 8 out of the top 10 Originators Were Banks

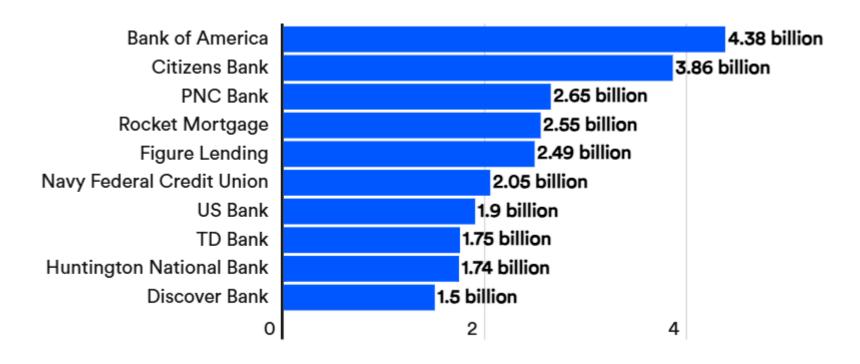
	20	08	
Rank	Originator	Volume (\$B)	Market Share
1	WELLS FARGO	\$237	16.0%
2	CHASE 🗘	\$187	12.6%
3	BANK OF AMERICA 🎾	\$183	12.3%
4	Countrywide	\$132	8.9%
5	cîtî	\$115	7.8%
6	Residential Capital	\$55	3.7%
7	WACHOVIA	\$51	3.5%
8	SunTrust	\$37	2.5%
9	usbancorp	\$34	2.3%
10	PHH Mortgage	\$34	2.3%
	Top 10:	\$1,065	71.9%
	Banks as a % of Top 10	92%	

#### Today, only 3 are Banks

	Tod	ay	
Rank	Originator	Volume (\$B)	Market Share
1	United Wholesale	\$100	8.2%
2	PennyMac	\$80	6.5%
3	Rocket Mortgage	\$70	5.7%
4	Freedom Mortgage	\$51	4.1%
5	Rithm (NewRez)	\$41	3.3%
6	Western Alliance Bancorporation	\$34	2.8%
7	CHASE 🗘	\$33	2.7%
8	Rate Inc.	\$29	2.4%
9	usbancorp	\$27	2.2%
10	CrossCountry Mortgage	\$26	2.1%
	Top 10:	\$490	40.0%
	Banks as a % of Top 10	19%	

## Largest Home Equity Lenders

The 10 most active home equity lenders, by loan dollar volume, in the first half of 2024:



Source: Inside Mortgage Finance

## Leading Lenders by Type



**TD Auto Finance** 



















































## **Customer Satisfaction Index: Mortgage Lenders**

AMERICAN CUSTOMER SATISFACTION INDEX:

#### MORTGAGE LENDERS

0-100 Scale

Mortgage Lenders         75           Rocket Mortgage         80           Chase         78           Bank of America         77           U.S. Bank         77           Wells Fargo         77           All Others         75
Chase         78           Bank of America         77           U.S. Bank         77           Wells Fargo         77
Bank of America         77           U.S. Bank         77           Wells Fargo         77
U.S. Bank         77           Wells Fargo         77
Wells Fargo 77
All Others 75
711 011010
Nationwide 74
Freedom Mortgage 72
PennyMac 70

Source: ACSI Insurance and Mortgage Lenders Study 2024. © 2024 American Customer Satisfaction Index LLC. All rights reserved.

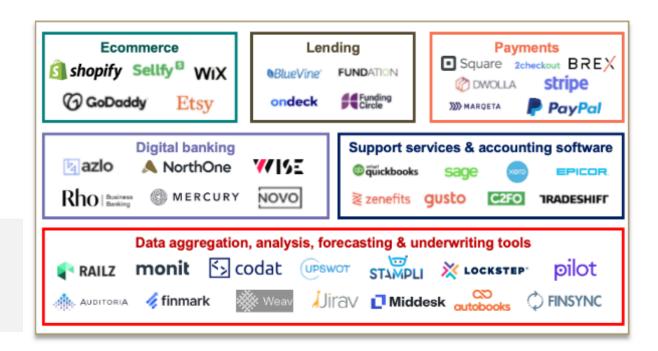
Charts extracted from this study for media use must include a statement identifying the study of origin and the publisher as the American Customer Satisfaction Index LLC. No advertising or other promotional use can be made of the data and information in this study without the express prior written consent of ACSI.

## Business Banking Is Also Being Threatened





Because financial institutions have largely not delivered products tailored to their SMB customers, most SMBs find themselves using what are effectively scaled-up consumer banking products or watered-down commercial features.



## S WHAT

The competitive threat of fintech is not limited to the consumer space as many new digital competitors have emerged, targeting small business customers with an easy, accessible and tailored approach to business banking. FI's have a new focus on SMB relationship building to drive deposit growth and non-interest income sources.

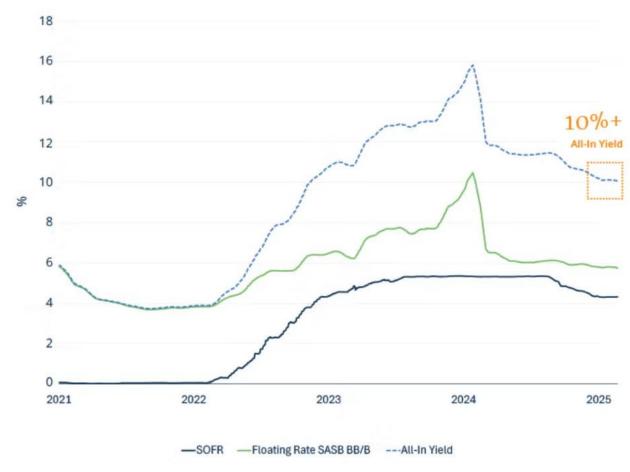
Source: Cornerstone Advisors Cornerstone Advisors | 13

## Private Equity Lending – Commercial Real Estate

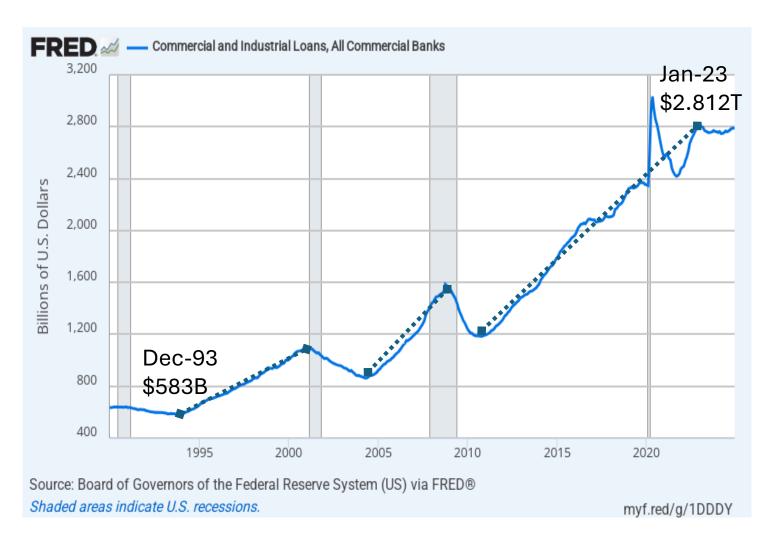
# The debt barons who are taking on the banks

The evolving landscape of private credit in U.S. commercial real estate lending

Figure 1: In a High-Yield Environment, Lenders Are Rewarded



## Commercial Banking



#### **Growth Rate per Expansion (Low to High)**

1993 - 2001 - 87.5% (\$511 Billion)

2004 - 2008 - 82.6% (\$712 Billion)

2010 - 2023 - 137.3% (\$1.6 Trillion)

#### **SWHAT**

#### **Next Expansion Possibilities**

Potential Low - \$2.1 Trillion (24.8% drop)

Potential High - \$3.8 Trillion (82.6% increase)

#### \$1.7 Trillion in new loan balances

## But Incumbent Model has Shifted to Digital

Big Banks Investing Big in Technology

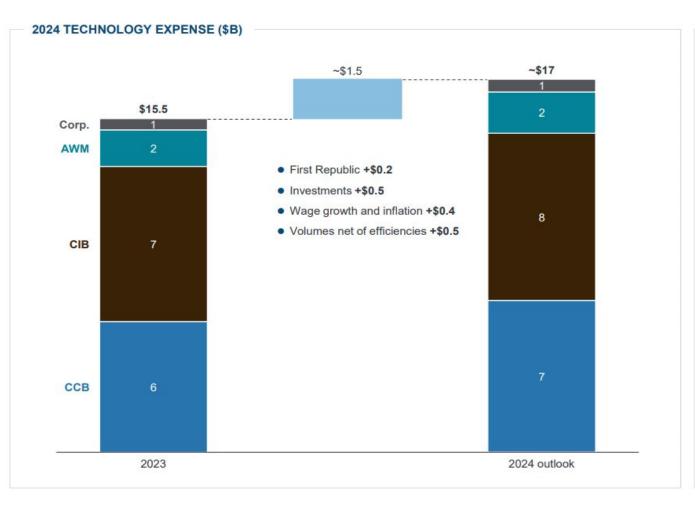


- Investing in billions of \$ in technology
- Creating omni-channel, seamless experiences between the branch and digital
- Driving relevancy
- Utilizing branches as financial advisory hubs, as opposed to transactional
- Actively shifting customers to selfservice for less emotional, non urgent issues (USAA Model)
- Proficient in Digital Sales

# Mega Banks Spend "Mega" \$\$ on Technology

Our 2024 Firmwide technology expense outlook is ~\$17B

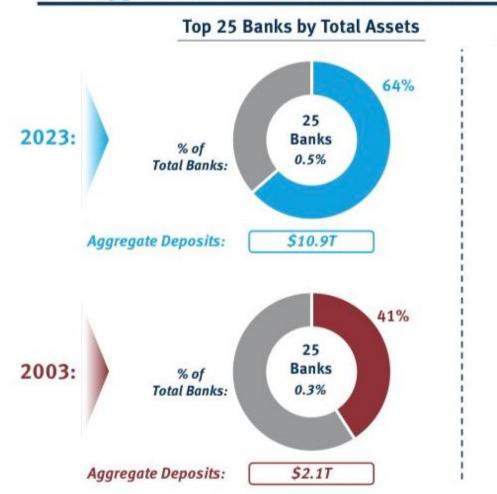




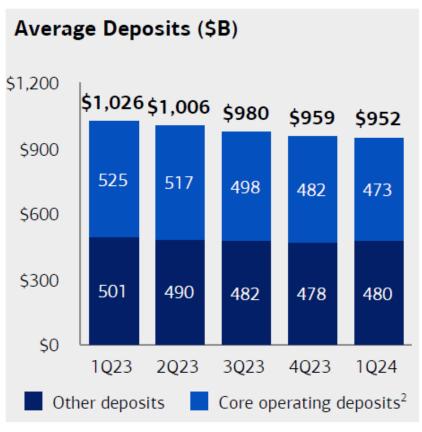


## Large Bank Dominance Means Niches Matter

#### The Biggest Banks Continue to Gain Share







# Bank of America December 2024 Digital Statistics





61% of all sales are now digital

26%

of Small Business sales from digital

79%

of overall households actively use digital platforms

86%

deposits are made through digital or ATM channels

# Branches are Closing but Rationalization is "In"



~10,000

Bank branches closed in the last four years, accelerating America's transition to automated banking, but....

~2,100

Bank branches closed in 2024; down from the record-breaking pace of the previous 3 years

~1,100

Branches opened in 2024

## Re-thinking Branches



#### **Deep Niche Focus**

**Deliver Niche** Member needs



#### **Holistic** Relationship **Approach**

Seamless. integrated Experiences

Re-orchestrate Sales & Service Support



#### Community **Spaces**

Local reach & focus **Business Event** 

Space

#### Holistic Relationship approach

- Provide seamless experiences by integrating digital and physical channels
- Re-orchestrate sales process- digital for acquisition and member-facing with deeper needs

#### Minimize human-assisted transactions:

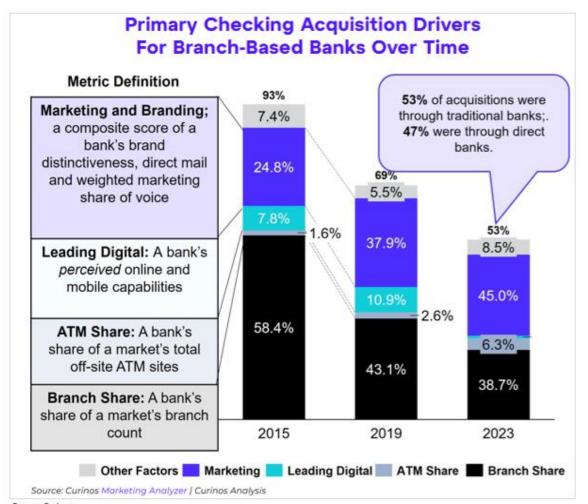
- Advice HUB, ITM's or Advanced ATM's to handle most transactions
- Digital Banking Tutorial Center; Video Room for consultations or financial specialists

#### **Talent Acquisition and Retention strategies changes**

- Relationship leaders in branches, wealth managers, advice providers
- Incentive changes to reward broadening/deepening relationship, not just sales or transactions
- Hospitality Focused Employees (PNC is hiring employees from the Industry)

## Marketing Critical to Branch Acquisition Strategy

- New primary checking accounts at banks fallen from 93% to 53%
- Consumers choose a bank less because of branch networks and more due to more personalized marketing strategies
- Digital capabilities have also become less important in bank selection- considered table-stakes
- Weak digital offers rose as primary reason to leave
- Branch networks will likely continue to be reduced or repurposed in the coming decade

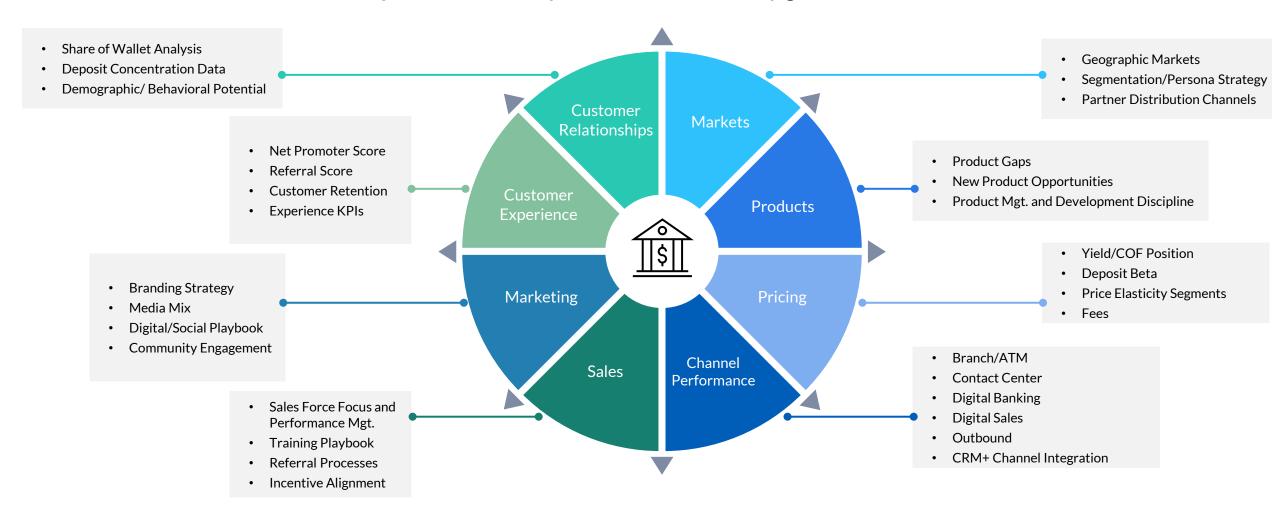


Source: Curinos

Source: Curinos 2024 Survey

# Growth Today Requires An Integrated Playbook

#### A Deposit Growth Playbook Focuses on 8 key growth levers.



# Are you banking a Fintech Partnership?

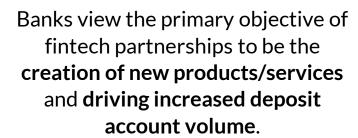


60%

Banks anticipate fintech partnerships will be a **moderate or strong driver of growth** for the upcoming year.



45%





33%

Banks seeing fintech partnerships as a driver of growth plan to invest in at least one startup.

S WHAT

Banks are increasingly leveraging partnerships to create new products and services. Fintechs are being utilized to fill the "void" in product offerings and not just solely attracting new customers.

# SEARS



"The greatest danger in times of turbulence is not the turbulence itself, but to act with yesterday's logic."

- Peter Drucker

#### Digital experiences will be the key customer experience differentiator going forward...

Customer behavior is evolving, and they have come to expect enhanced digital service and experience.

- Influenced by both financial & non-financial interaction
- Speed, ease of use, & visibility
- Future revenue will be dependent on the digital experience



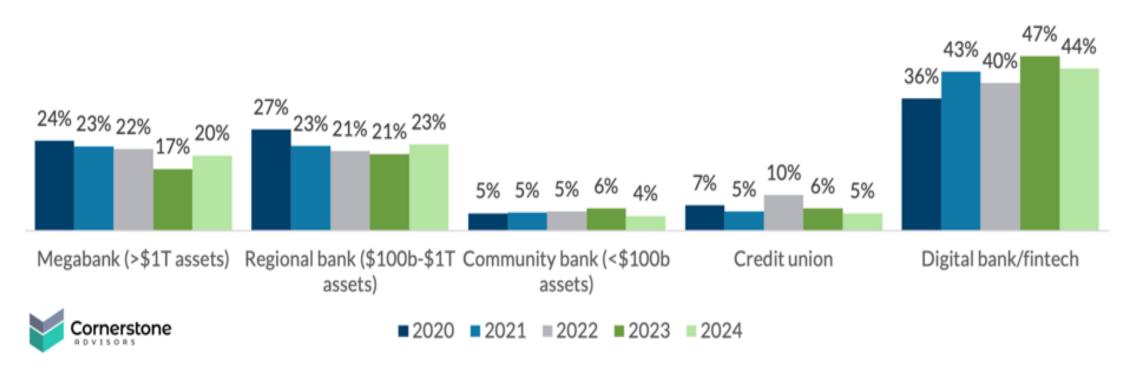
## What does Primary Financial Institution Mean?

#### **Americans' Shadow Financial Lives**



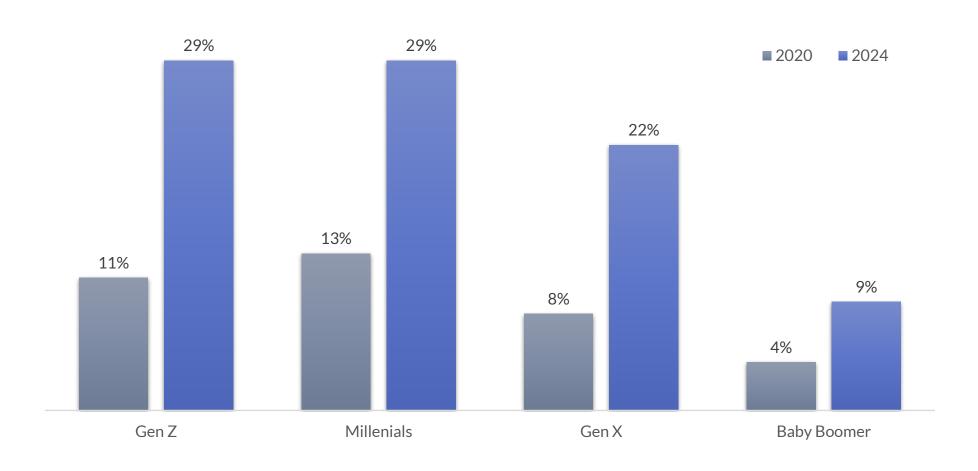
# Digital Bank/FinTech's Maintaining Lead in Checking **Account Openings**

Percentage of New Checking Accounts Opened by Type of Institution



## **Generational Preferences**

#### % of Consumers Digital Primary Checking



## While Our Clients Are Talking About Relationships...



1.9 Million (+107%)



5.5 Million (+41%)



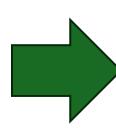
8.6 Million (+23%)



~9 Million? (+40%)



25 Million (+9%)



~50 Million Debit Cards

**1.3** Billion Debit Cards in the U.S.

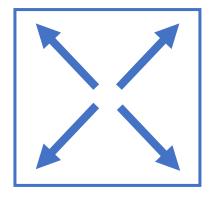
## Digital Banks Grew Effectively Using Three Tactics

#### **Target**



Established core users by approaching unique niches with a tailored offering

#### **Expand**



Scaled by relying on effective data analysis, looking within unique niches to conduct product diversification

#### Retain



Deliver a differentiated digital experience to ensure retention and engagement

# **SoFi** More Than Just Student Loans

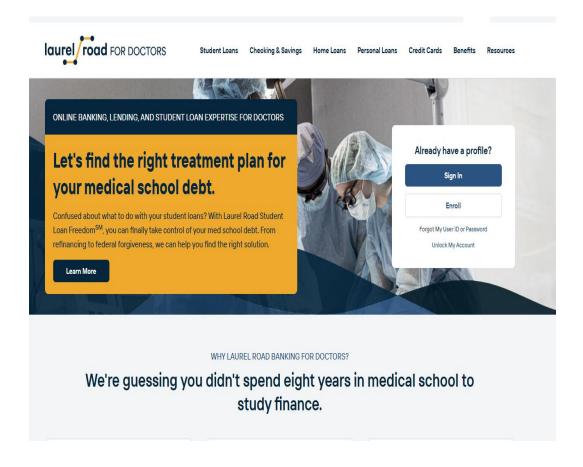


- 9.5 Million Accounts
- 2.9 Million New Accounts in '23



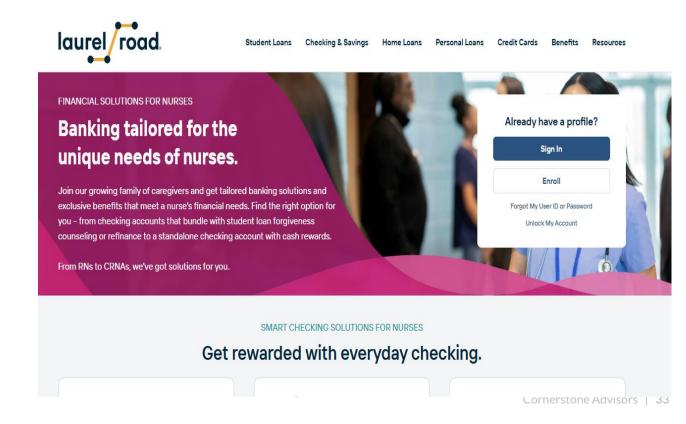
## Laurel Road: Niche Solutions & Experiences

#### **Doctors**





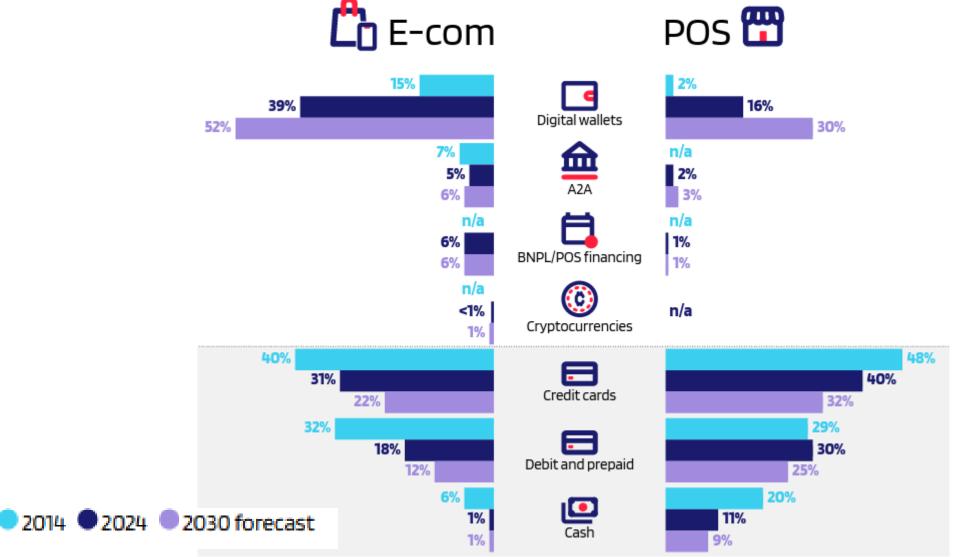




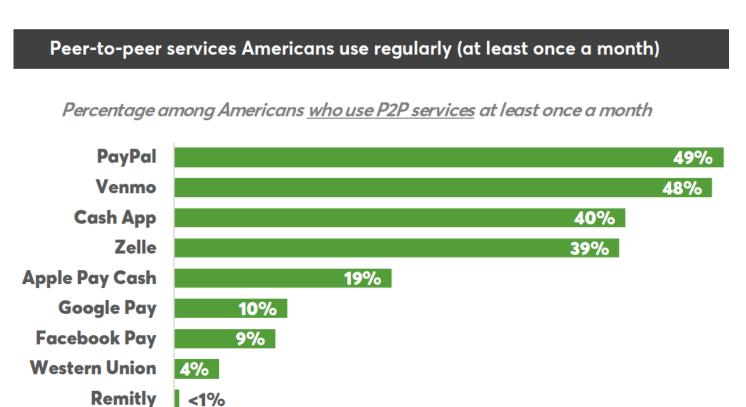


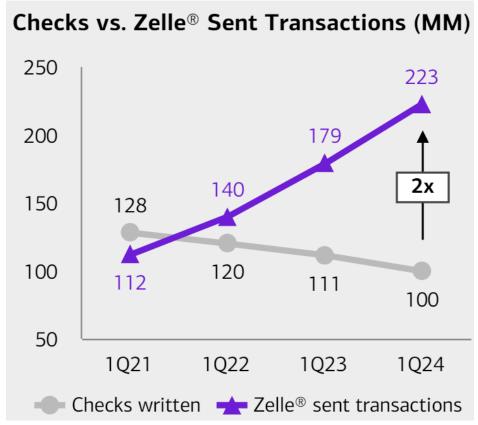
## Digital Wallet Adoption





## Alternative Payments – P2P





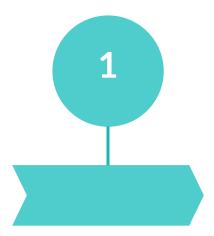
## Stablecoin and Agentic Wallets

#### Stablecoin - Genius Act

- A regulatory framework is being established for stablecoin requirements.
- This opens the door for banks and credit unions to engage in the stablecoin market.
- Providers of stablecoins can create lucrative business opportunities through money transfers and investment yields, enabling them to offer returns that are more attractive than traditional bank rates.
- Banks face the risk of deposit instability or, at the very least, an increase in their cost of funds.
- The associated risk is more long-term, as the current primary application of stablecoins is in international money transfers, which remains a specialized service.

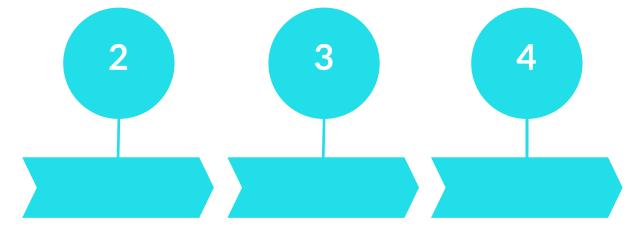
## BNPL Reality Check for Banks & Credit Unions

## Misconceptions



Banks have
"inherent
advantages" in
BNPL (trust, peace
of mind, etc.)

## Reality



Consumers trust BNPL brands—not banks—for pointof-sale financing

BNPL influences
buying decisions
early in the
journey, not just at
checkout

Banks enter after the sale—too late to sway consumer choice

### **Bottom Line**



Banks and credit unions are behind in the BNPL race, and the gap is strategic.

## Why BNPL Matters - And What's at Stake

Not just a loss on interchange





Megabanks like Chase can build inhouse



CREDIT CARD THREAT

BNPL data lets providers issue cards before banks can even react



DEPOSIT PLACEMENT

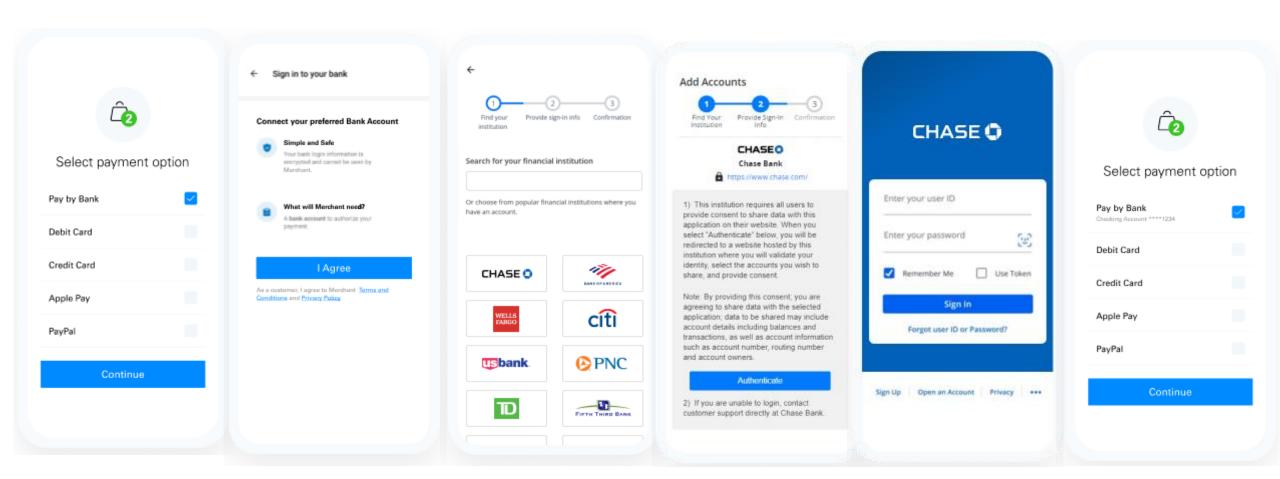
Affirm's debit card users spent \$400M in Q4 2023—30% instore



LOAN DISRUPTION

Debit + credit relationships set the stage for future personal loan growth

## Pay by Bank – Merchant Driven



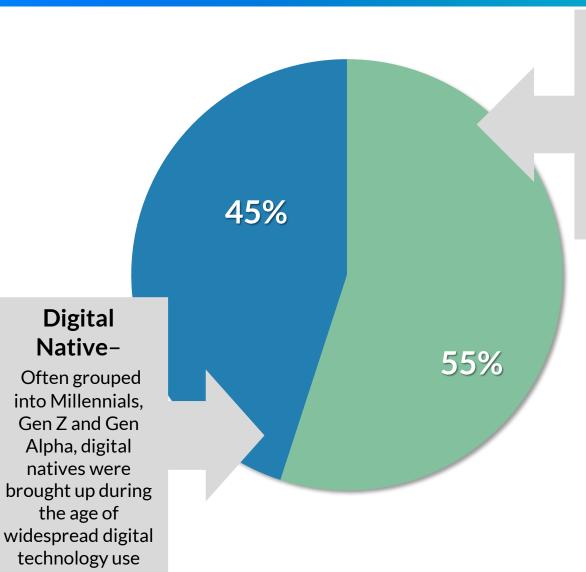
## The Generational Shift



## **Digital Native Domination**

A typical social media user spends **2.5 hours** on average every day using social media

Digital Natives make up 45% of the US population



#### Digital Immigrant-

A person born before the widespread use of digital technology

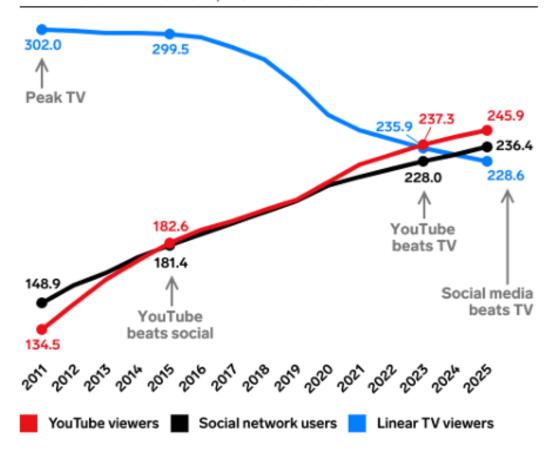


physically walked inside of a bank today and picked up some paper checks. might around and chop some wood later. maybe ride the horse into town for some provisions.



## Go Where the People Are

By 2025, There Will Be More YouTube and Social Network Users Than Linear TV Viewers in the US millions of US YouTube viewers, social network users, and linear TV viewers, 2011-2025



#### Most Social Users in the US Are Spending More Time on TikTok Than on Other Popular Platforms

average minutes per day among US adults, by age, 2024

	18-24	25-34	35-44	45-54	55-64	65+
TikTok	76	50	47	45	37	29
Instagram	53	37	28	27	26	20
Facebook	22	26	30	36	45	34
Snapchat	35	27	22	22	20	19
Total	186	140	127	130	128	102

Note: internet users who use a social network via any device at least once per month; includes all time spent on social network platforms; includes usage via any device

Source: EMARKETER Forecast, Feb 2024

350911



## How Much Do You Think You Know About Gen Z?

RANK	BRAND	FAVORABILITY
1	<b>►</b> YouTube	86.23%
2	Google	83.87%
3	NETFLIX	82.18%
4	amazon	80.28%
5	<b>me</b> ms	79.81%
6	Walmart 🔆	79.76%
7	<b>O</b>	79.66%
8	Domes	79.32%
9	(Kit Cat)	78.96%
10	ORISO	78.57%

RANK	BRAND	FAVORABILITY DIFFERENCE
1	Discord	+18.26
2	<b>TikTok</b>	+14.24
3	crocs	+13.38
4	$\bigcirc$	+12.20
5	SHEIN	+11.47
6	FENTY BEAUTY BY RIHANNA	+9.67
7	Com'	+9.40
8	O	+8.97
9	<b>≰</b> Pay	+8.95
10	( <del></del>	+8.84

Source: Morning Consult Brand Intelligence Source: Visa

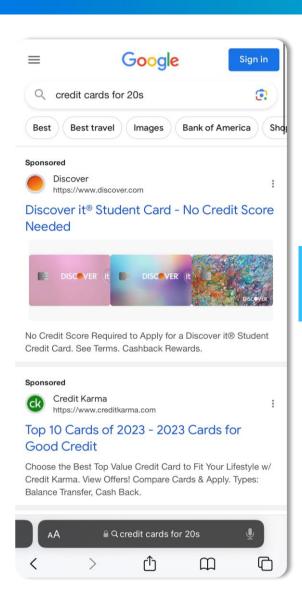
## Transforming Search Engine Landscape

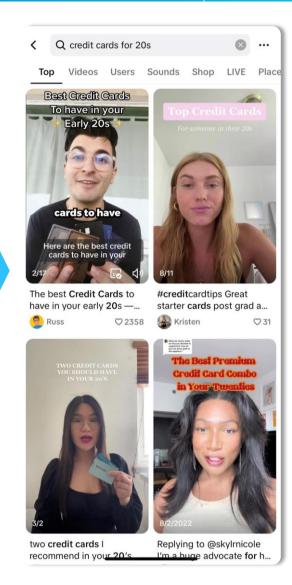
#### **Social Search:**

45% of Gen Z use YouTube to learn about personal finance

30% turn to TikTok to learn about personal finance

30% - 50% of consumers use influencer content to research banking products





## **Best Practices**

#### Be Engaging



#### **Be Strategic**



Venmo: 2.8M Views | 34.7K Comments SoFi: 2.7M Views | 31 Comments

#### **Be Loud**

#### Chime:

- 14 Instagram Posts
- 18 TikTok Posts
  - Views: 1,120 3.2M

#### Venmo:

- 16 Instagram Posts
- 25 TikTok Posts
  - Views: 643 7M

#### SoFi:

- 29 Instagram Posts
- 22 TikTok Posts
  - Views: 583 7.7M

#### Cash App:

- 5 Instagram Posts
- 8 TikTok Posts
  - Views: 2,504 1.2M

## Al Based Recommendations - Perplexity

#### Banking Products for Daily Financial Management

**High-Yield Checking Accounts** 

Axos Bank Rewards Checking (8):

- No monthly fees and 3.30% APY on balances up to \$ and debit card usage criteria.
- Ideal for professionals seeking to maximize interest or maintaining accessibility.

SoFi Checking and Savings ( 8 9):

- Combines checking and savings with 4.60% APY on overdraft fees.
- Offers automated savings tools, including "Vaults" for goals (e.g., emergency fund or down payment).

Specialized Savings Vehicles

Oklahoma Credit Union (OKCU) Homebuyer Savings Acc

- Tax-deductible contributions up to \$5,000 annually
- Funds can be allocated toward closing costs, down page 1 automated savings integrations to streamline contrib



What banking products and companies would you recommend for a young professional two years out of school making 75,000 with \$100,000 in student loan debt who is looking for the optimal solution for savings and paying down debt with the long term objective of buying a house

As a young professional two years into your career with a \$75,000 annual income and \$100,000 in student loan debt, your dual objectives of debt reduction and homeownership require a strategic approach to banking products, debt management, and savings optimization. Drawing from industry-leading financial tools, refinancing opportunities, and tailored banking solutions, this report synthesizes actionable recommendations grounded in current market offerings and expert financial planning principles.

Assessing the Financial Landscape: Debt, Savings, and Homeownership

#### Current Financial Position and Challenges

With \$100,000 in student loan debt, your debt-to-income ratio (DTI) stands at approximately 133%, exceeding the 36% threshold generally recommended by lenders for mortgage eligibility [1]. However, this metric alone does not preclude homeownership; instead, it underscores the need for a disciplined debt repayment strategy paired with systematic savings. Key considerations include:

- . Interest Rates on Existing Debt: Prioritize high-interest loans (e.g., credit cards or private student loans) over lower-interest federal loans [1] [2].
- Emergency Fund Requirements: A reserve of 3-6 months' living expenses (\$15,000-\$30,000, assuming \$5,000/month) is critical to avoid derailing progress during unforeseen
- Homebuying Timeline: Accelerating debt repayment may delay homeownership by 3-5 vears, whereas balancing both goals could extend the timeline but build equity sooner [1] [4].

#### tudent Loan Refinancing Strategies

nder Recommendations

#### SoFi ( 9 ):

- Fixed rates from 4.29% APR with autopay, 20-year terms, and unemployment protection.
- · Permits refinancing of federal and private loans, though federal benefits (e.g., incomedriven repayment) are forfeited upon refinancing 7 9.

Education Loan Finance (ELFI) ( 2 7):

- Fixed rates from 4.88% APR and hybrid fixed/variable options.
- Provides personalized loan advisors to structure repayment timelines aligned with homebuying goals.

RISLA ( 2 9):

- Income-based repayment post-refinancing, unique among private lenders.
- Fixed rates start at 6.34% APR, suitable for borrowers prioritizing payment flexibility over rate reduction 2.

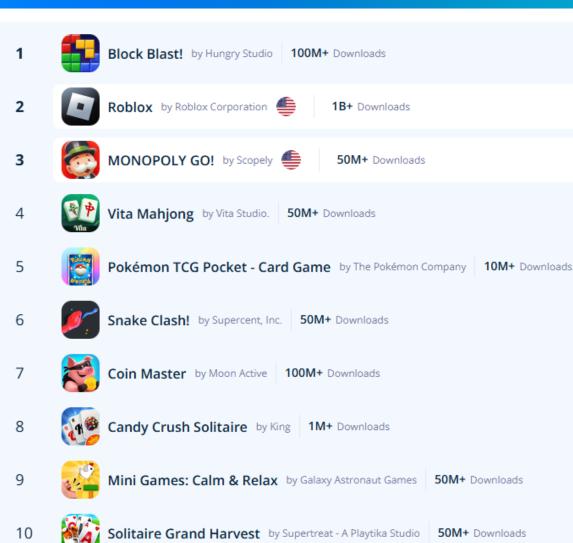
#### efinancing Considerations

Credit Score Requirements: A FICO score ≥670 is typically needed to qualify for the lowest rates without a cosigner 7.

Term Length: Extending repayment to 20 years lowers monthly payments but increases total interest; a 10-year term saves \$18,000 on a \$100,000 loan at 6% APR 7 9.

## Marketing in 2025







Rocket Money - Bills...

## The Five I's – 5 Fixes to Win!



- How are you saying the words?
- What marketing strategies are you using?





**Iterate** 

- **Incentivize**
- How are incentives tailored to different audiences?
- How do you make incentive programs engaging?



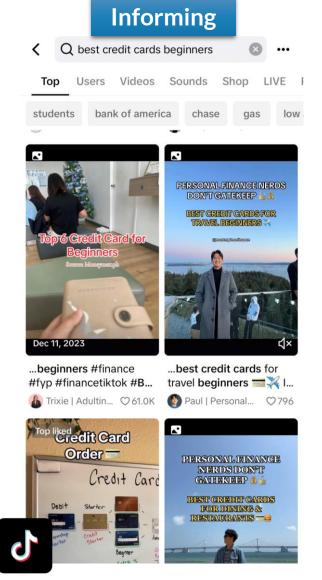
- Are you growing your product and service offerings?
- How do you leverage data to measure the success of new products?

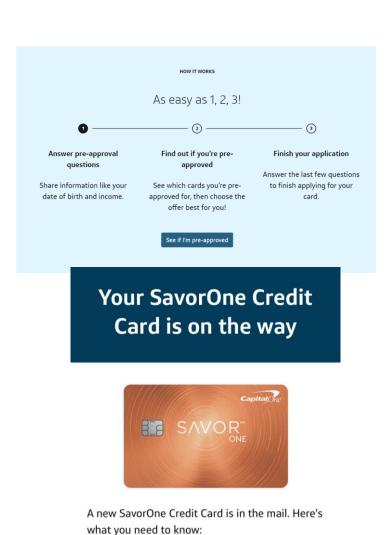


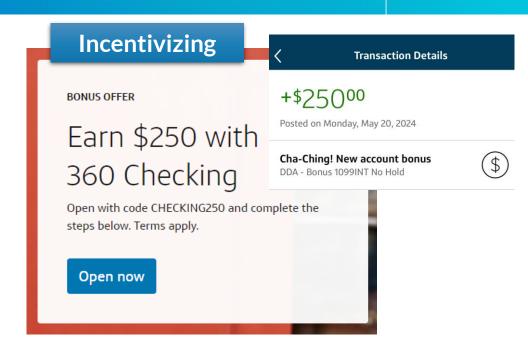
- What are your technological capabilities?
- Do you have an all-in-one platform for your products?



## Kelli's Banking Story







#### And now I'm here...

- Direct Deposits → Capitol One Savings
- Credit Card
- Moving over Recurring Payments
- Apple Wallet & Saved Card on Amazon

## **Contact Info**





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The Leadership Stretch: Staying Relevant When the Game Has Changed and the Power of the Assist

by Christopher Thompson





# 

The Stretch That Changed Everything







Leadership Requires a Different Kind of Stretch



## The Leadership Game Has Changed—Now What?

Old Playbook

Now in Transition

New Game

- Command & control
- → Letting go of rigidity

Collaborative leadership

Hierarchy-led

- → Questioning old norms
- Flatter organizations

One-size-fits-all

- → Experiencing the stretch
- Personalized approaches

That stretch you feel? It's leadership trying to keep up with how people want to be led.

# Two rubber bands same material, same purpose but only one survived the stretch.







"Stretching only works when there's something inside that pushes outward.

In leadership, that something... is the air.

The air is your purpose. Your intention. Your energy.

Without it, you're just holding shape. But with it, you can bounce back, move forward, and lift others."

You're not just holding the ball...

You're holding the air that gives it purpose.

The **stretch** prepares you.

The **air** sustains you.

The **assist** is what you do with it.



## The Power of the Assist

18,065

Leadership isn't about your name on the scoreboard—
it's about the people who scored because of you.







You can't *pass* well if you haven't first *noticed* who needs the ball.



# When You See <u>People</u>, You Lead Differently

"You can measure performance all day. But if you never see the person, you'll lose both."

## You Gotta Know Who's on Your Team

- **Mentor** Gives you perspective
- Sponsor Puts your name in rooms
- Coach Helps you grow
- Friend Knows the real you
- Therapist Helps you stay whole



## How the Assist Shows Up at Work

#### **Mentor - Teaching the play**

Sharing wisdom and skills to help others execute with clarity.

#### **Sponsor - Advocating in the huddle**

Using your voice and influence when they're not in the room

#### **Coach - Calling the timeout**

Helping people regroup, reset, and re-strategize mid-game.

#### Friend - Celebrating the win and the miss

Showing up with consistency—whether they scored or stumbled.

#### Therapist - Healing the injury nobody saw

Helping leaders process what's beneath the surface so they can return stronger



"In basketball, assists look like a pass. In leadership, they look like people who play different roles so the team can win.



## The Mirror Moment: How Did It *Feel* to Be Led By You?

You don't get credit for what you meant.
You get responsibility for what was received."

#### Your Intention

What you thought you were doing

→ "I was trying to motivate..."

#### Their Experience

How it landed→ "They felt shut down."

## Your Delivery

How it came out→ "Fast. Sharp. Unfiltered."

## Your Responsibility

What you own next

→ "Repair, recalibrate, or repeat the cycle."

## Your Legacy Is in the Assist

"I've learned that people will forget what you said, people will forget what you did, but people will never forget how you made them feel." — Maya Angelou



## Your Next Play Starts Here

Where is do you need to stretch?

→ Name one place your leadership needs to evolve

Who needs you to pass the ball?

 $\rightarrow$  Identify one person or team who benefits from your influence.

What game are you helping others win?

→ Reflect on how your assist will be remembered.



"You don't have to take the final shot to change the score.

Just make the right assist."













#### STINSON

# **Banking on AI**

Safe and Productive Use of Artificial Intelligence in the Financial Services Industry

Steve Cosentino, CIPP

2025











#### UISTINSON



Anthropic CEO Dano Amodei



#### Amodei Making Rounds with CNN, Axios

- Behind the Curtain: A White-Collar Bloodbath Axios May 28, 2025
- CNN Interview with Anderson Cooper May 29, 2025
- "Al is starting to get better than humans at almost all intellectual tasks, and we're going to collectively, as a society, grapple with it"
- Amodei believes the AI tools that Anthropic and other companies are racing to build could eliminate half of entry-level, white-collar jobs and spike unemployment to as much as 20%
- All could wipe out more specialized white-collar roles that may have required years of expensive training and education and those workers may not be so easily retrained for equal or higher-paying jobs.
- Amodei suggested that lawmakers may even need to consider levying a tax on Al companies.



# **ChatGPT Chief Issues AI Warning at Congressional Hearing**



"My worst fears are that we — the field, the technology, the industry — cause **significant harm** to the world. I think that can happen in a lot of different ways," Altman said.

"I think if this technology goes wrong, it can **go quite wrong**, and we want to be vocal about that. We want to work with the government to prevent that from happening," he added.

"Are you saying there's a chance . . . We destroy the world? General Leslle Groves (Matt Damon) Oppenheimer

"They won't fear it until they understand it. And they won't understand it until they've used it." J. Robert Oppenheimer

#### UISTINSON





## **Positive Steps Forward**



- Educate and train on risks
- Consider executive AI roles
- Explore available applications
- Test and vet providers
- Adopt Al policies
- Conduct continuous review
- Train employees to pick up where Al leaves off
- Stay current on evolving laws



## Forward Looking AI Employee Roles

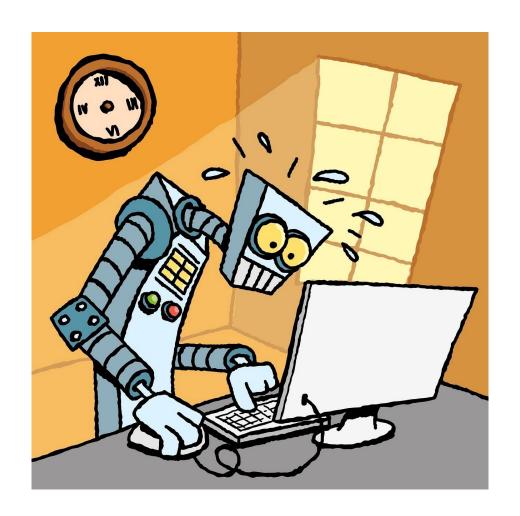


- Data Scientist
- Al Research Scientist
- Computer Vision Engineer
- Al Product Manager
- Al Consultant
- Data Analyst (Al Focused)
- Al Ethicist/Responsible Al Specialist
- Al Policy Advisor
- Chief Al Officer



#### What can Generative AI be used for?

- Content creation
  - Artwork, designs and illustrations
  - Ideas and concepts
  - Written content such as blog posts, articles and social media posts
  - Music and audio
- Research
- Computer coding
- Streamlining repetitive tasks
- Project workflows





## **Uses of AI in Bank Operations**

- Credit Risk Assessment
- Fraud Detection and Prevention
- Customer Service Automation
  - Bots Virtual Agents
  - Be aware of session recording and tracking litigation
- Operational Efficiency
- Research
- Marketing
- Agent Training and Analysis
- Speech Analysis
- Predictive Call Routing





## What are some common Generative AI apps?

- ChatGPT
- GitHub Copilot
- Claude
- Scribe
- Jasper
- Dall-E2
- Autodesk's Generative Design

- Wordtune
- Notion
- VEED
- Speechify
- Perplexity





# Sounds awesome! What is the problem?



- Generative AI can produce content that infringes on the intellectual property of others
  - This can expose Bank to costly and time consuming lawsuits
- Limited protection for Bank trade secrets
  - This can result in the loss of valuable Bank intellectual property
- Limited protection for personal information
  - This can result in privacy lawsuits and regulatory actions
- Limited protection for confidential information
  - This can result in lawsuits and bad customer relations
- · Can be flat out wrong
- Generative AI can learn mistakes and errors where bad data is used



## AI in the Financial Services Industry

- FI specific AI tools can assist in compiling data and providing regulatory reports
  - These tools need to be with reputable vendors on negotiated terms
  - Terms need to address confidentiality and training of the Al tool
  - Data must be segregated from other customers
  - Review and confirmation of results is necessary
- Chatbots can help interact with customers/members
  - Consent is required for session recording significant litigation risk
- New tools are becoming available for fraud detection
- Customer/Member relationship management
- Credit Risk Management
  - Concerns about algorithmic discrimination and bias





## Here is where the training comes in

- How Al works
- What goes in and what comes out
- IP issues
- Confidentiality and Privacy
- Training for Specific Roles
- Bias





#### **How does Generative AI Work?**

- Generative Al uses complex algorithms, often based on deep learning neural networks
  - Deep neural networks use sophisticated math modeling to process data in complex ways.
  - Deep means that it has multiple layers which takes longer to train but offers higher performance, efficiency and accuracy.
- Generative Al learns from vast datasets, recognizing patterns and relationships within the data.
- Generative AI generates new content by extrapolating from the learned patterns.
- The process involves an iterative approach, refining itself over time.



## What goes in – what comes out?

- Al results are only as good as the input used
- The online world is filled with content
- Content can be fact or fiction
- Fiction is easier to create than fact

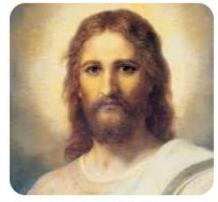




### Google Image Search – Head Shot of Jesus



Head of Christ - Wikipedia W Wikipedia



Artwork of Jesus Christ

The Church of Jesus Chri... ;



Sacred Heart of Jesus Picture...

B Etsy



4,300+ Jesus Christ Head St...

(S) iStock



Warner Sallman | Sacred Art ...





Artwork of Jesus Christ

The Church of Jesus Chri...



# But . . . . it's getting better



#### **Chat GPT**

Could you clarify what you're looking for in a "headshot of Jesus"? For example:

- Are you looking for a classical painting, a realistic digital rendering, or a stylized/modern version?
- Should it be based on historical evidence (e.g., Middle Eastern features from the 1st century), or more traditional Western depictions?
- Would you like to include a crown of thorns, a halo, or just a neutral expression?
- Let me know your preferences—or upload a reference if you have one—and I can generate an image for you.

#### Claude

I'd be happy to help you create or find a depiction of Jesus. Could you clarify what you're looking for specifically?

Are you interested in:

- A traditional artistic representation (like classical paintings or icons)
- A more contemporary artistic interpretation
- Historical/archaeological perspectives on Jesus's likely appearance
- Creating an original artistic piece
- If you'd like me to create something, I could make an artistic representation using HTML/CSS or help you find information about existing artworks. Let me know what style or approach you prefer!



#### **Microsoft CoPilot**

- Key Risk Oversharing
- Business Version
  - User Access Control Settings
  - Oversharing and Confidentiality risk can be reduced
  - Out of the box configuration presents significant risks
  - Proper configuration is necessary
  - Access permissions must be correct





# **Copyrights and AI**





## **US Copyright Guidance**

#### **Prompts**

It is not enough for these prompts to simply be detailed and complex; they should also meet certain requirements.

- Extremely detailed and creative
  - A description in several sentences that expresses a unique artistic vision rather than just a general command.
  - A dreamlike cityscape where soaring glass towers reflect the golden hues of the setting sun, while glowing jellyfish float in the sky like drifting lanterns, casting a soft blue light on the cobbled streets below, where shadowy figures in Victorian garb stroll beneath an intricate web of floating bridges.
  - This prompt contains original expression and specific creative choices that can be copyrighted.
- Poetic or Literary
  - A poetic passage containing figurative language, metaphors and unique phrases, such as:
  - In the depths of the emerald ocean, a lone siren sings to the moon, her voice weaving silver threads through the midnight waves, calling lost sailors to the edge of the world where the stars whisper secrets to the tides.
  - This text statement shows creative authorship, similar to a poem or short text.
- Character descriptions with unique background stories
- Detailed suggestions for storytellingLyrics or lyrical prompts



## **GitHub Copilot**

```
addresses.rb
 TS sentiments.ts
                                 parse_expenses.py
                  ∞ write_sql.go
 1 #!/usr/bin/env ts-node
 3 import { fetch } from "fetch-h2";
 5 // Determine whether the sentiment of text is positive
 6 // Use a web service
 7 async function isPositive(text: string): Promise<boolean> {
     const response = await fetch(`http://text-processing.com/api/sentiment/`, {
       method: "POST",
       body: `text=${text}`,
       headers: {
11
         "Content-Type": "application/x-www-form-urlencoded",
12
       },
     });
     const json = await response.json();
     return json.label === "pos";
17 }
   8 Copilot
                                                    C Replay
```



## **Legal Risks – Incorrect Output**

- This is both a legal risk and a reputational/customer relationship risk
- The quality, breadth, and sources of data on which generative AI such as ChatGPT are trained to draw upon to generate responses are unknown and may not be current.
- ChatGPT 4.0, for example, has a limited knowledge of world events after 2021.
- Al is subject to "hallucinations" providing seemingly plausible content with no fact or basis in reality.
- Two lawyers were recently fined for using ChatGPT in a legal brief which resulted in them citing to fake court cases.



### Legal Risks – Privacy

- Supposedly, ChatGPT has technical guardrails in place to prevent the sharing of people's personal information and data.
- That is not perfect and remains a concern according to a study.
- ChatGPT also collects user information such as IP address and location.
  - That is not unlike many websites.
- The bigger risk is that ChatGPT collects any information you provide in chats including personal information
- That information remains in the ChatGPT data stores and is never deleted
- Employees who enter other individuals personal information into ChatGPT expose Bank to costly lawsuits and regulatory actions.
- The ChatGPT privacy policy states that if you intend to enter personal data into the chat, you need to provide the
  people involved with adequate privacy notices
  - That is unlikely to happen.
- If you were to enter personal information into ChatGPT, depending on the jurisdiction, Bank would need to enter into ChatGPT's Data Processing Addendum.
- For these reasons never enter personal information into ChatGPT.



### **Legal Risks – Confidential Information**

- Anything you enter into ChatGPT is not protected by any confidentiality obligations
  - That can result in breach of Bank contracts and non-disclosure agreements
  - Samsung learned this the hard way when employees used ChatGPT to record meetings and check proprietary code
- Confidential Information often is a trade secret which is valuable Bank intellectual property
  - Entering trade secrets into ChatGPT will cause them to lose their status as a trade secret
  - This amounts to the loss of valuable Bank intellectual property



## **Legal Risks – Infringement**

- ChatGPT in particular is trained on a large amount of internet data that includes copyrighted material.
- Therefore, it's outputs have the potential to violate copyright or IP protections.
- ChatGPT does not offer source references or explanations as to how its output is generated.
- This can result in costly infringement suits by third party IP holders
- GitHub Copilot produces exact copies of learned code 0.1% of the time
  - That can result in significant infringement if it is frequently used



## **Legal Risks – Open Source License Violations**

- GitHub Copilot relies on fair use arguments to supposedly protect it from infringement claims by the authors of open-source code used to train Copilot.
- Fair use is a fuzzy legal defense that can be difficult to rely upon
- There is current litigation by the open source community against Microsoft and GitHub regarding this issue.
- Regardless, GitHub Copilot can produce code that is copied from the GitHub open source libraries.
- That can result in a violation of the applicable open-source licenses
- Many open-source licenses require attribution which would be impossible to do for Copilot generated output.
- For this reason, and the infringement risk, only the GitHub enterprise license should be used.



### **Legal Risks – Insecure Code**

- GitHub Copilot may introduce insecure code in its suggestions.
- Public code may contain insecure coding patterns, bugs, or references to outdated APIs or idioms. When GitHub Copilot synthesizes code suggestions based on this data, it can also synthesize code that contains these undesirable patterns.
- For this reason, all output from Copilot must be screened for vulnerabilities using Bank's standard practices.



### Legal Risks – Bias

- Colorado Artificial Intelligence Act (CAIA) goes into effect 1/1/26
- Exception for financial institutions subject to equivalent or more stringent rules that apply to the use of high-risk artificial intelligence systems.
  - CFPB Joint Statement April 2023
  - Declares commitment to enforce existing laws and regulations to mitigate the risks of Al
  - Question as to whether these rules will be sufficient for the exception
- The CAIA focuses on high-risk artificial intelligence systems
  - Systems that are a substantial factor in making a consequential decision (includes a financial or lending service)
- Protects against algorithmic discrimination



## Legal Risks – Bias



- Developer
  - Develops or substantially modifies an Al application
- Deployer
  - Uses an Al application
  - A deployer can become a developer if they cause a significant change in the Al application that they did not contemplate
- General duty of reasonable care
- Complying with CAIA requirements establishes a rebuttable presumption of reasonable care
- No private right of action AG enforcement
- Violation is an unfair trade practice under the Colorado Consumer Protection Act
- Up to \$20,000 per violation

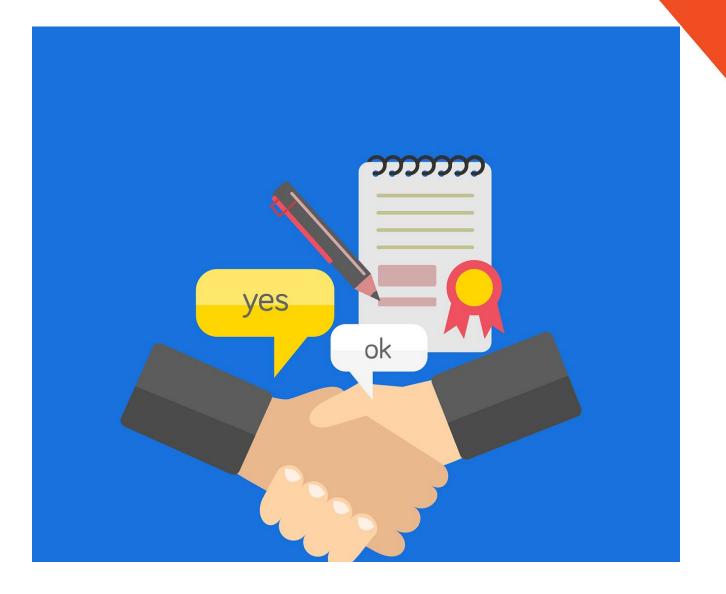


## Legal Risks – Bias

- Disclosures ahead of a consequential decision
- Individuals must be informed of CPA opt-out of having their personal data processed by an AI system
- Right to an explanation of an adverse consequential decision
- Right to correct
- Right to appeal for human review
- Deployers must undertake risk management and other best practices such as an annual review for algorithmic discrimination

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In addition to training, risks can be reduced through negotiated contracts with AI Service Providers





### **Negotiated Financial Services Software Agreements**

- Negotiated terms for Financial Services AI applications can address confidentiality and data security
  - Segregation of data
  - Restrictions on training
- Al is often used as a selling point but isn't fundamentally different from algorithmic traditional software tools
- Vendors will often use the fact that AI learning is an evolving process to disclaim any liability for errors and hallucinations
- Acceptance provisions and evaluation licenses are important



### AI in Vendor Agreements

- Confidentiality obligations
  - Data segregation
  - Restrictions on use of personal and confidential information in AI tool training
- Data security obligations, liability and indemnity
- Avoid overly broad disclaimers as to accuracy if possible
- Termination rights for repeated hallucinations and inaccuracies
- Shorter term arrangements due to rapid industry change



# FINRA Regulatory Notice 24-09

- Applies to Broker-Dealers
- Affirming existing rules:
  - The notice clarified that FINRA rules and federal securities laws extend to the use of generative AI. This ensures that AI remains within the boundaries of regulations designed to be evergreen and applicable to new technologies.
- . Inviting engagement:
  - Recognizing the revolutionary potential of AI, FINRA is encouraging firms to share the specific challenges they face when applying AI to supervisory and compliance programs.



### **Bank Protection of Confidential Information Policy**

- Bank permits the use of generative artificial intelligence tools such as ChatGPT, subject to certain restrictions which can be found in the Bank Intellectual Property Policy.
- Because these tools do not contain any protections for Confidential Information or trade secrets, their use can compromise Bank's Confidential Information and/or result in a loss of trade secret status.
- For these reasons, any use of generative artificial intelligence tools may not contain any Bank sensitive, proprietary or Confidential Information or any Bank trade secrets.



- Use of Generative Artificial Intelligence
  - ChatGPT and other such apps can be an effective tool for learning; generating ideas, code, documents, or prototypes; and synthesizing or reviewing data.
  - Where appropriate, Bank generally promotes use of generative AI in the workplace for innovation and increasing employee productivity subject to this policy.
  - Bank defines generative AI and related tools broadly to include any form of artificial intelligence, such as Large Language Models like GPT, that generally can create new responses, ideas, codes, documents, or other data through use of the AI and related tools.
  - Bank provides electronic communication systems and devices for business-related purposes, and employees should **not expect any privacy** when using generative AI and related tools on these systems and devices.



- Acceptable Use of Generative Al
  - Employees generally may use generative AI and related tools for routine workplace activities. Routine
    workplace activities are daily or common work-related duties that are outlined in employee job descriptions
    or related Bank policies, such as generating internal work email or work presentations for co-workers.
    However, generative AI and related tools may not be used for routine workplace activities that:
    - contain or involve Bank's sensitive, proprietary, and Confidential Information;
    - involve communications, such as emails, texts, or social media posts, with customers or other persons or companies outside of Bank's business;
    - pertain to service and business requests, such as invoices, with customers or other persons or companies outside of Bank's business; or
    - are for creating legal work product or for legal purposes.
  - When authorized, employees may use generative AI and related tools for work product and projects.
     Specifically, when authorized, employees may use generative AI and related tools for research and development purposes. Managers and supervisors must inform their employees if they may or may not use generative AI on projects and tasks that they assign.





Use of generative AI and related tools may not contain Bank sensitive, proprietary, and/or Confidential Information or any Bank trade secrets unless the application has been approved for such use.



- Acceptable Use of Generative AI
  - Any use of generative AI and related tools in the workplace that may be customer facing or
    otherwise visible outside the Bank, such as code for Bank's websites, marketing, or sales, must be
    authorized and reviewed before it is used or deployed. Employees may not use generative AI and
    related tools for such purposes that violates international, federal, state, or local privacy or
    employment-related laws or otherwise divulge Bank sensitive, proprietary, or Confidential Information
    or for legal purposes.
  - If employees are unsure whether they may use generative AI in a certain situation, they must contact
    their manager or supervisor for clarity. If managers or supervisors need clarifications or have
    questions about whether employees working on a specific activity, project, or task may use
    generative AI, they should contact [Department, Office, or Position Title] for guidance.
  - Employees may not enter sensitive, proprietary or Confidential Information of Bank in generative AI
    tools. The operators of such tools have no legal obligation to protect such information, which could
    result in a compromise of Confidential Information or a loss of Trade Secret status.



- Acceptable Use of Generative AI
  - Employees must keep in mind that relying on generative AI created responses for substantive work can result in inaccurate, incomplete, or misleading content.
  - Employees must review all text or other materials produced by generative AI for accuracy and factuality before using for any official purposes, including sending any internal or external emails or sharing presentations, documents, or other materials.
  - Keep in mind that generative AI tools do not provide any protection against intellectual property infringement so any use documents being used externally require approval of the Bank legal department.



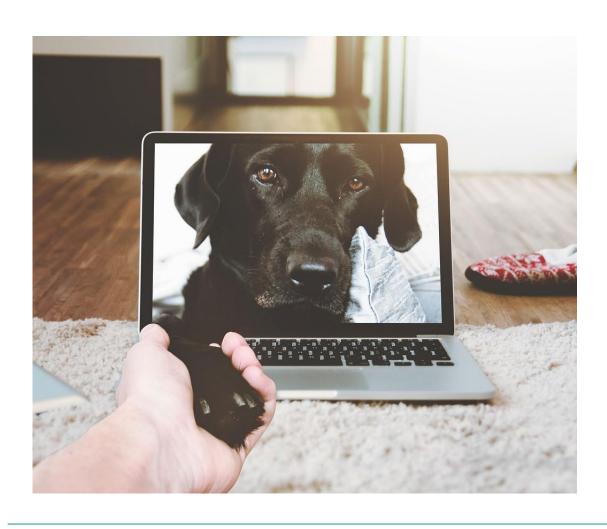


#### **Prohibited Use of Generative AI**

- Employees who use generative AI and related tools may not:
  - Enter any employer sensitive, proprietary, or Confidential Information into generative Al and related tools;
  - Engage in activities restricted by this policy or use generative AI and related tools for external work product or projects without prior authorization and appropriate review;
  - Engage in discriminatory, harassing, defamatory, or otherwise prohibited conduct under federal, state, or local law;
  - Attempt to test, circumvent, or defeat security or auditing systems of Bank or any other organization without prior authorization and review;
  - Use generative AI for activities that may be considered plagiarism; or
  - Use generative AI and related tools to otherwise violate Bank's policies.



### **Use of Generative AI for Personal Reasons**



- Employees should avoid using generative AI and related tools in the workplace for personal reasons.
   Nonwork-related use that interferes with productivity or otherwise violates Bank policies is prohibited.
- Employees can, however, use Bank's generative AI and related tools during nonwork time for communications protected by the National Labor Relations Act, including protected discussions about terms and conditions of employment.



# Security and Monitoring of Generative AI Use

- Because Bank owns and operates electronic communication systems and devices, Bank monitors employee use of generative AI and related tools, whether accessed at work or elsewhere through telecommuting, to ensure that electronic communication systems and devices are being used in compliance with federal, state, and local laws and regulations, this policy, and other Bank rules.
- For more information, see Bank's Information Security Policy.





# **Use of Github Copilot**

- All Bank developers must abide by the following Copilot use restrictions at all times:
  - All use of Copilot must be pursuant to the Bank business license. Use of individual personal licenses is strictly prohibited.
  - Copilot may only be used for Bank internal software or Bank SaaS software. Copilot may
    not be used for the development of on-prem software to be distributed to Bank customers.
  - All code taken from Copilot suggestions must be screened for vulnerabilities using Bank's standard screening tools.
  - Copilot queries should be based on the desired functionality. Use of Copilot to try to replicate known open source applications is strictly prohibited.
  - Bank may terminate the use of Copilot at any time. Bank developers must immediately cease all use of Copilot upon receipt of notice of such termination.



# Github Copilot for Business License

- All Bank developers must use the Github Copilot for Business License when available.
- Copilot for Business License allows the Bank IT administrators to toggle a feature that prevents suggested code that matched public code on GitHub from being displayed in results.
- This can reduce but not eliminate infringement risks.



#### AI in the New Presidential Administration

- Executive order of 1/20/25 revokes and replaces President Biden's executive order
- Biden's Order
  - Safety and security;
  - Responsible innovation, competition, & collaboration;
  - Development supporting a commitment to American workers;
  - Advancement of equity and civil rights;
  - Protection of the interests of Americans using Al in their daily lives;
  - · Privacy and civil liberties;
  - Risk management from the federal government's own use of AI, including an increased capacity to regulate and govern the responsible use of the technology; and
  - Encouragement for the federal government to lead societal, economic, and technological progress related to AI
- Trump's Order
  - Develop AI systems that are free from ideological bias or engineered social agendas
  - Solidify the US position as the global leader in Al
  - Calls for departments and agencies to revise or rescind all policies, directives, regulations, orders, and other actions taken under the Biden AI order that are
    inconsistent with enhancing America's leadership in AI



#### UISTINSON

# **Questions?**





# What's Important Now: Separate signal from noise and create a nimble balance sheet

06/02/2025

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#### **WIN**



What's important now?

If you set a goal and you don't ask yourself "what's important now?" you don't have a goal... you have a wish.

- Lou Holtz



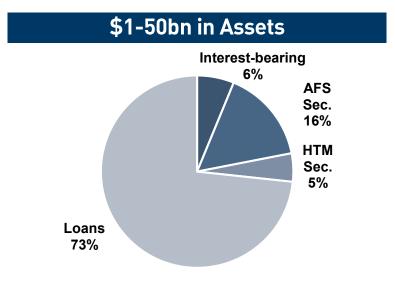


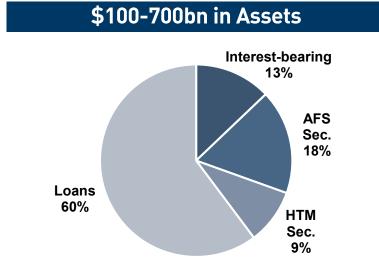
# The Liquid Balance Sheet

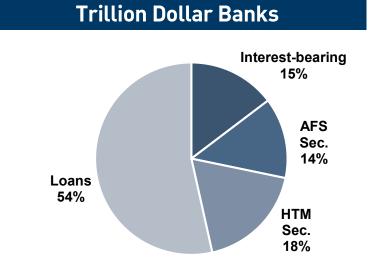


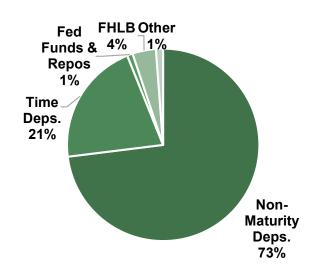
#### **Balance Sheet Composition**

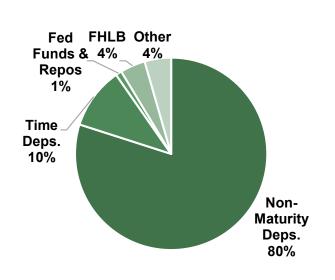
Larger bank balance sheets have larger portfolios and hold more liquid assets

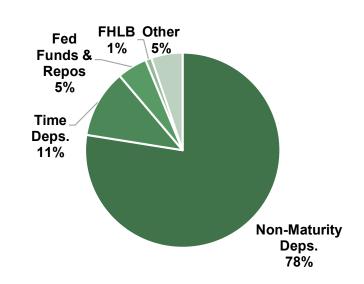










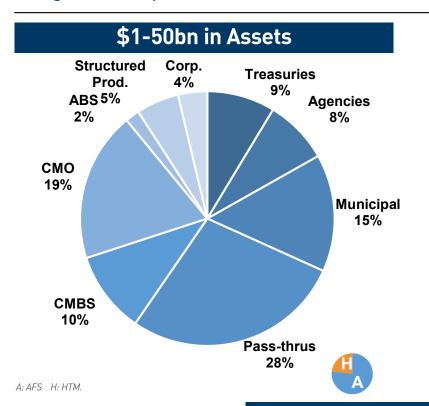


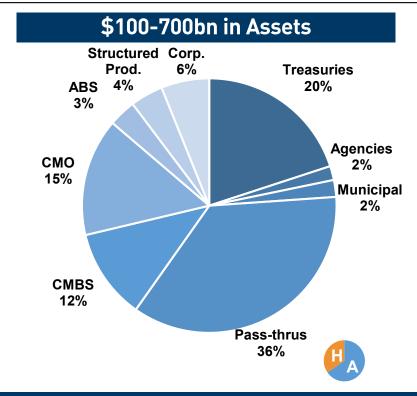
Source: S&P Capital IQ, as of 2024Q4. Excludes industrial banks, credit card and trust banks, and U.S. subsidiaries of international banks. For discussion purposes only.

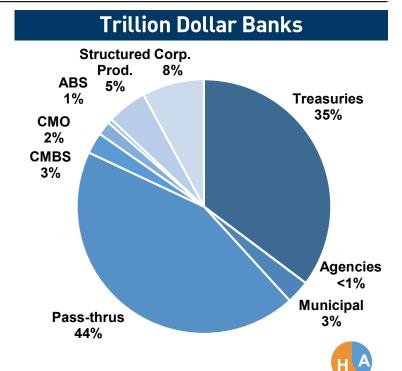


#### **Securities Portfolio Composition**

Larger bank portfolios hold more MBS and Treasury positions







Reinvestment by Bank Size				
Assot Sizo (\$)	Investme	nt Portfolio	Rolloff: % of	Poinvostment (\$)
Asset Size (\$)	% of Assets	\$	Portfolio	Reinvestment (\$)
1,000,000,000	10%	100,000,000	15.00%	15,000,000
10,000,000,000	10%	1,000,000,000	15.00%	150,000,000
100,000,000,000	10%	10,000,000,000	15.00%	1,500,000,000
1,000,000,000,000	10%	100,000,000,000	15.00%	15,000,000,000

Source: S&P Capital IQ, as of 2024Q4, Excludes industrial banks, credit card and trust banks, and U.S. subsidiaries of international banks. For discussion purposes only.



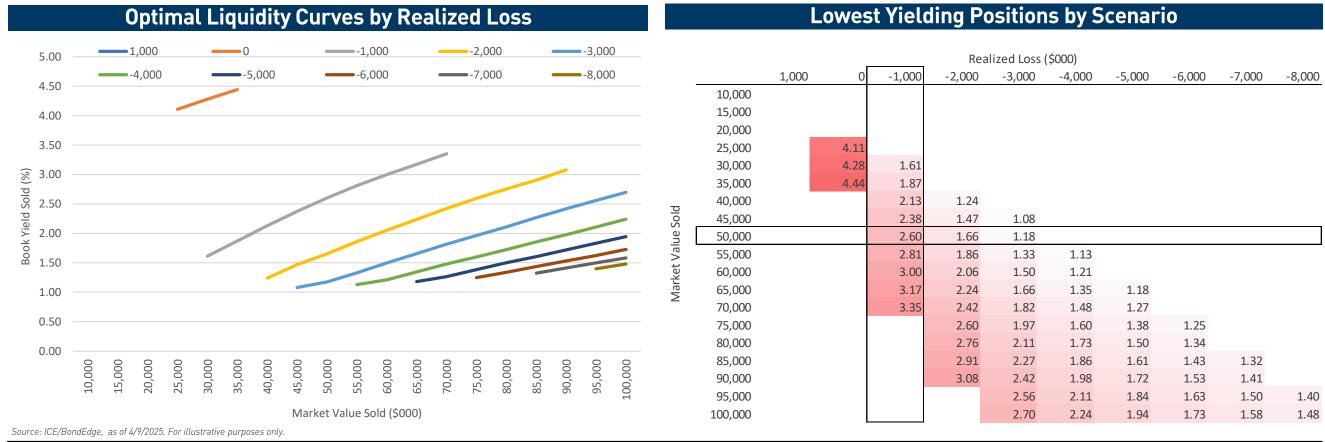
# Raising Liquidity from the Portfolio



#### **Liquidity Curves**

#### Raise liquidity efficiently

- Portfolio losses will be present in COVID era portfolio positions for years to come and recent purchases could have gains
- Considering this, how can positions with gains and losses be selected for sale meeting desired liquidity and gain/loss parameters?
- In other terms, what is the optimal set of positions to liquidate for a given market value and realized gain or loss or capital to spend to raise?





#### Harvesting Portfolio Liquidity and Time to Recovery

#### Same math as a restructuring analysis

- Rather than considering positions for sale in isolation, pairing gains and losses, consider the entire portfolio
- Identify the optimal set of positions to achieve a goal (e.g., book yield, duration, convexity, etc.) and intentionally reshape the portfolio
- Expand most profitable part of your balance sheet

	Tin	ne to R	ecou	up Rea	alized	Loss	and In	it. Inco	me @	<b>7%</b>	
					Rea	alized Loss	(\$000)				
		1,000	0	-1,000	-2,000	-3,000	-4,000	-5,000	-6,000	-7,000	-8,000
	10,000										
	15,000										
	20,000										
	25,000		0.6								
	30,000		0.6	0.8							
	35,000		0.6	0.7							
р	40,000			0.7	1.0						
Market Value Sold	45,000			0.7	1.0	1.3					
lue	50,000			0.7	0.9	1.2					
Va	55,000			0.7	0.9	1.1	1.4				
ket	60,000			0.7	0.9	1.1	1.3				
Mai	65,000			0.7	0.8	1.0	1.2	1.5			
_	70,000			0.7	0.8	1.0	1.2	1.4			
	75,000				0.8	1.0	1.1	1.3	1.5		
	80,000				0.8	0.9	1.1	1.3	1.4		
	85,000				0.8	0.9	1.1	1.2	1.4	1.6	
	90,000				0.8	0.9	1.0	1.2	1.3	1.5	
	95,000					0.9	1.0	1.1	1.3	1.5	1.6
	100,000					0.9	1.0	1.1	1.3	1.4	1.6

	Tim	ne to R	Recou	ıp Rea	alized	Loss	and Ir	nt. Inc	ome (	<b>99%</b>	
			_		Reali	zed Loss (\$	000)				
		1,000	0	-1,000	-2,000	-3,000	-4,000	-5,000	-6,000	-7,000	-8,000
	10,000										
	15,000										
	20,000										
	25,000		0.5								
	30,000		0.5	0.6							
	35,000		0.5	0.6							
ъ	40,000			0.6	0.8						
Sol	45,000			0.6	0.7	1.0					
Market Value Sold	50,000			0.6	0.7	0.9					
Va	55,000			0.6	0.7	0.9	1.1				
ket	60,000			0.6	0.7	0.8	1.0				
Mar	65,000			0.6	0.7	0.8	1.0	1.1			
_	70,000			0.6	0.6	0.8	0.9	1.1			
	75,000				0.6	0.7	0.9	1.0	1.2		
	80,000				0.6	0.7	0.8	1.0	1.1		
	85,000				0.6	0.7	0.8	0.9	1.1	1.2	
	90,000				0.6	0.7	0.8	0.9	1.0	1.2	
	95,000					0.7	0.8	0.9	1.0	1.1	1.3
	100,000					0.7	0.8	0.9	1.0	1.1	1.2

Source: ICE/BondEdge,as of 4/9/2025. For illustrative purposes only



# **Manage Duration**

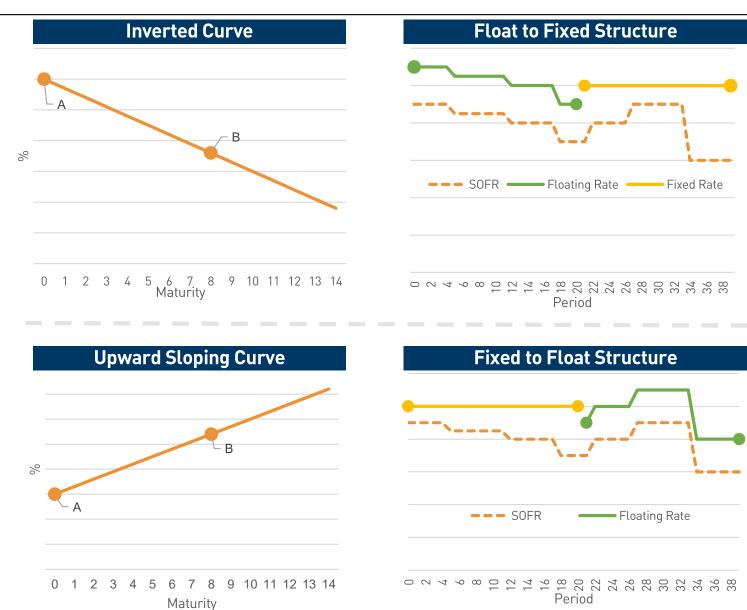




#### Manage Duration Using a Partial Term Swap

Hedge well structured, fixed-rate securities to target duration

- Utilize a swap to convert a fixed rate asset to floating for the full- or partial-term with a spot or forward starting swaps to reduce duration and/or create a specific rate structure
- A spot starting pay-fixed swap will net a rate structure that is floating for the term of the swap
  - A full-term swap (matching maturities) will produce a net instrument that is floating rate for the life of the structure
  - Hedging for less than the full-term, or partial-term, results in a net instrument that will float at a spread to a reference rate for the term of the swap and revert to a fixed-rate instrument after the swap maturity
- A forward starting pay-fixed swap that is also full-term will net a rate structure that is initially fixed for the forward period, then float at a spread to a reference rate until maturity
- Benefits: Stable cashflow, duration managed front-end or backend yields, income, no cap, efficient way to express near term asset sensitivity and longer-term income durability
- Considerations: Two transactions, hedge accounting, suitable assets, spread duration



-or discussion purposes only.



#### Freddie Mac and Fannie Mae Multifamily Securities

#### Agency CMBS with prepayment protection

- Freddie Mac Multifamily Participation Certificates (PCs) and Fannie Mae Delegated Underwriting and Servicing (DUS) securities are predominately backed by a single multifamily mortgage
- Both offer...
  - Fully guaranteed principal by the agency, offering liquidity, stability, and affordability
  - Prepayment protections in the form of yield maintenance or declining prepay penalty (DPP)
  - Potentially a source for CRA credit
  - Fully guaranteed principal
  - Single tier pass-through structure
  - Liquid secondary market
- DUS auctions can be held up to 2 months prior to settlement and potentially spanning over quarter end and making it difficult for some banks to participate in new issue auctions
- Bank investors find it easier to participate in the PC primary auctions due to the relatively shorter T+3 typical settlement period
- "DUS (PC) hunting"

		1
	Multi PCs	Fannie Mae DUS
Issuance Size	Flexible	Flexible
Pool Composition	Single Mortgage	Single Mortgage
Underwriting	Freddie Mac	Mortgage Lenders
Tranches	Single	Single
Servicer Risk-Share	No	Yes
Subordination	No	No
Servicing	Freddie Mac	Fannie Mae
Guarantee	Fully Guaranteed	Fully Guaranteed
Marketing	Mostly Auction	Mostly Auction
New Issue Settlement	T+3	TBA varies, up to 2 months
Prepayment Protection	Yield Maintenance or DPP	Yield Maintenance or DPP
Common Structures	5/3, 7/6, 10/9.5	5/3, 7/6, 10/9.5

https://mf.freddiemac.com/docs/pc\_investor\_presentation.pdi



#### **Partial Term Hedge**

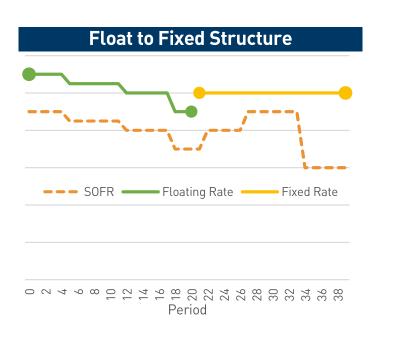
#### Spot Start: Float-to-Fixed or Full-term Floater

Spot Starting Hedge for F	ull- or Partial-ter	m							Spot Sta	rt Hedge	Term				
					0.0	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0
Security	5yr UST	Duration (%)	4.5	SOFR Spread (bps)			36	43	43	39					
Current Par (\$)	10,000,000	Dv01 (\$)	449	Initial rate setting (%)			4.70	4.77	4.77	4.74					
Price	99.91	Hedge Maturity (yrs)	5.0	Net DV01 (\$)			257	167	80	0					
Unhedged Yield (%)	4.02	Spread to IORB <sup>1</sup> (%)	0.30	Net Duration (%)			2.6	1.7	8.0	0.0					
Security	10/9.5 FT IO	Duration	7.7	SOFR Spread (bps)			127	134	134	130	125	120	116	111	
Current Par (\$)	14,900,000	Dv01	768	Initial rate setting (%)			5.61	5.68	5.68	5.65	5.60	5.55	5.50	5.45	
Price	100.54	Hedge Maturity	9.0	Net DV01 (\$)			576	486	399	316	235	158	84	12	
Unhedged Yield (%)	4.90	Spread to IORB <sup>1</sup>	1.21	Net Duration (%)			5.8	4.9	4.0	3.2	2.4	1.6	0.8	0.1	

Source: Bloomberg LP and pricing as of 05/29/2025 11:02 ET

(1) Floating rate spread to IORB





For illustrative purposes only.



#### **Partial Term Hedge**

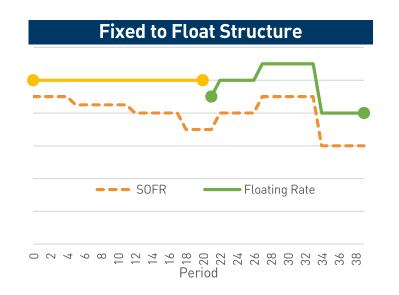
Forward Start: Fixed-to-Float

Forward Starting Hedge for Full-term								Forward	Start Pe	riod of Fu	ll-term H	edge			
					0.0	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0
Security	10/9.5 FT IO	Duration (%)	7.7	SOFR Spread (bps)	105	108	102	93	85	77	73	67	62		
Current Par (\$)	14,900,000	Dv01 (\$)	773	Swap Term (yrs)	9.0	8.0	7.0	6.0	5.0	4.0	3.0	2.0	1.0		
Price	100.60	Hedge Maturity (yrs)	9.0	Net DV01 (\$)	17	114	209	299	386	469	550	627	701		
Unhedged Yield (%)	4.89	Spread to IORB <sup>2</sup> (%)	0.49	Net Duration (%)	0.2	1.1	2.1	3.0	3.9	4.7	5.5	6.3	7.0		

Source: Bloomberg LP and pricing as of 05/29/2025 11:09 ET

(2) Fixed rate spread to IORB



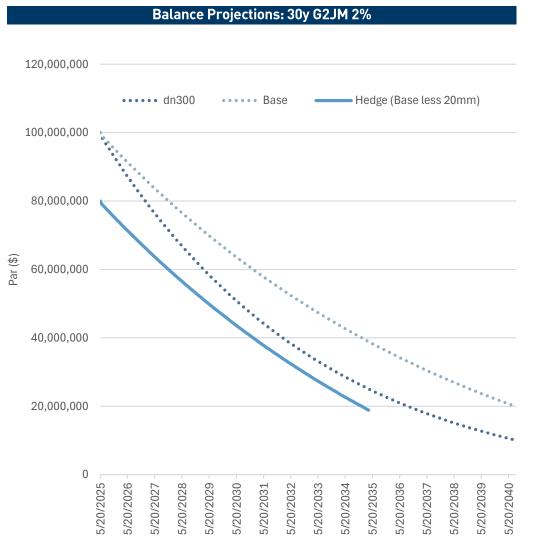


For illustrative purposes only.



#### **Hedged Discount MBS and Whole Loans**

Stable cashflows vs. new current-coupon production



Rate Shift Analysis (\$80mm initial hedge)			
Income and Spread	dn300	Base	up300
Swap		20.00	аросс
12m Average Notional	75,842	75,842	75,842
Pay-fixed	3.74	3.74	3.74
SOFR	1.30	4.30	7.30
A Net Interest Income	-1,851	425	2,700
MBS			
12m Average Book Value	75,560	76,693	77,422
Book Yield	5.29	5.29	5.29
B Book income	3,997	4,057	4,096
Funding			
D 12m Average Funded	75,560	76,693	77,422
Cost % (SOFR)	1.30	4.30	7.30
C Cost\$	982	3,298	5,652
Net Hedged Position			
E Net Interest Income [A+B-C]	1,164	1,184	1,144
Return on Funded Amnt (bps) [E/D]	154	154	148
Net Gain (loss) at horizon (% of Curr Par	dn300	Base	up300
0-month	10.0%	-0.1%	-5.7%
12-month	8.1%	-1.3%	-7.1%
24-month	6.3%	-2.5%	-8.6%

- As compared to currentcoupon MBS or market rate mortgages, discount mortgages will pay in relatively more predictable manner thus can support a higher percentage hedged
- Consider 3 possible 10-year final pay-fixed swaps as hedges
  - Balance A (blue): a balance equal to the base case prepayment projection less \$20mm
  - Balance C (orange): a balance equal to the base case prepay projection (no offset) and for illustration purposes only
- Accounting for the significant discount, the net position (MBS and hedge) offers a meaningful spread to cost of funds (SOFR)
- Considerations:
  - Hedge accounting
  - Potential for accelerating prepayments

Source: Bloomberg LP, Murex, as of 5/8/2025



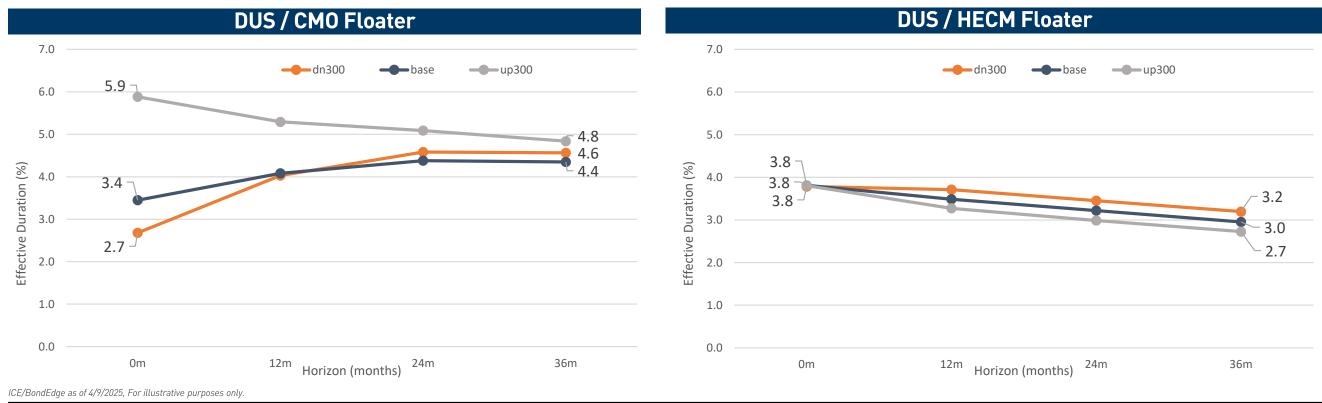
# **Barbells and Dumbbells**



#### **Barbell Duration Drift**

Thoughtfully consider the use of prepayable assets in a barbell strategy

- Consider two barbell strategies pairing a 10/9.5 DUS with...
  - 6.5% cap CMO floater (30-yr, 6.5% collateral) at SOFR + 120
  - 11% cap Home Equity Conversion Mortgage (HECM) floater
- The use of short average life and prepayable assets in a barbell strategy creates potential for future duration variability



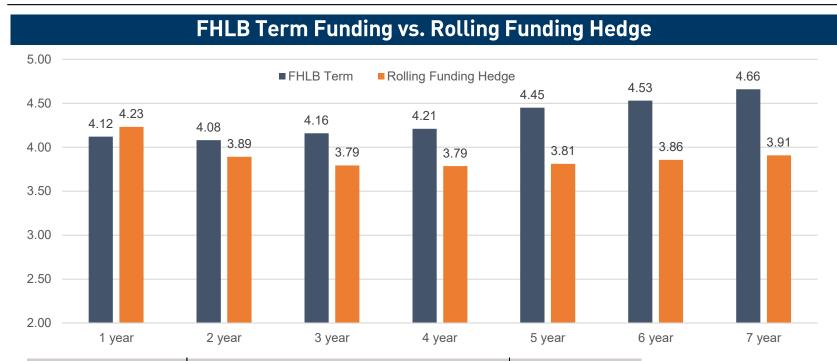


# **Funding Thoughts**



#### **Rolling Funding Hedge Update**

Transforming a short-term borrowing into a longer-term fixed rate



- Continuously renewed, short-term funding resembles a floating rate borrowing and can be hedged with a pay-fixed swap
- This "rolling funding hedge" can offer an advantage to outright term funding
- Consider the basis risk between the SOFR and short-term funding rate as well as hedge accounting implications

			Hedge			
	Fixed	Funding	Pay-fixed		Initial	
Term	FHLB Adv	3m	Swap Rate	SOFR	Setting	Difference
3 month	4.50					
1 year	4.12	4.50	4.06	4.33	4.23	-0.11
2 year	4.08	4.50	3.72	4.33	3.89	0.19
3 year	4.16	4.50	3.62	4.33	3.79	0.37
4 year	4.21	4.50	3.62	4.33	3.79	0.42
5 year	4.45	4.50	3.64	4.33	3.81	0.64
6 year	4.53	4.50	3.69	4.33	3.86	0.67
7 year	4.66	4.50	3.74	4.33	3.91	0.75



FHLB Boston rates sourced from Bloomberg LP, all units are percent unless noted, as of 5/29/2025. For discussion purposes only.



#### Other Funding Ideas

#### **Indexed Deposit**

- Why build an indexed deposit base?
- Reduced administration
  - 100% beta
  - Less volatile balances compared administered deposit products
  - Comparable to off balance sheet options
- Hedge-able source of interest rate sensitivity that can also provide a natural on balance sheet hedge to asset sensitive lending strategies
- Caps, floors, swaps

#### Hedge-able Retail CD

- "Death-put" in retail CDs make this a difficult instrument to hedge
- The Redeemable CD<sup>©</sup> offers the potential to hedge
  - No death-put
  - Similar to a debt issuance (issued at par) that will carry a premium or discount after issuance
  - Market value derived from economic replacement value
  - A symmetrical early redemption cost or benefit determined by the economic replacement value
  - Typical FDIC insurance coverage and non-transferable
- Consider a 3-year Redeemable CD © portfolio with a cost of 3.50%
  - Create a SOFR-based liability when hedged with an identical maturity receive-fixed swap
  - Example:
    - Hedged with a 3.70% (rec fixed / pay SOFR)
    - Overall position costs SOFR 20 bps



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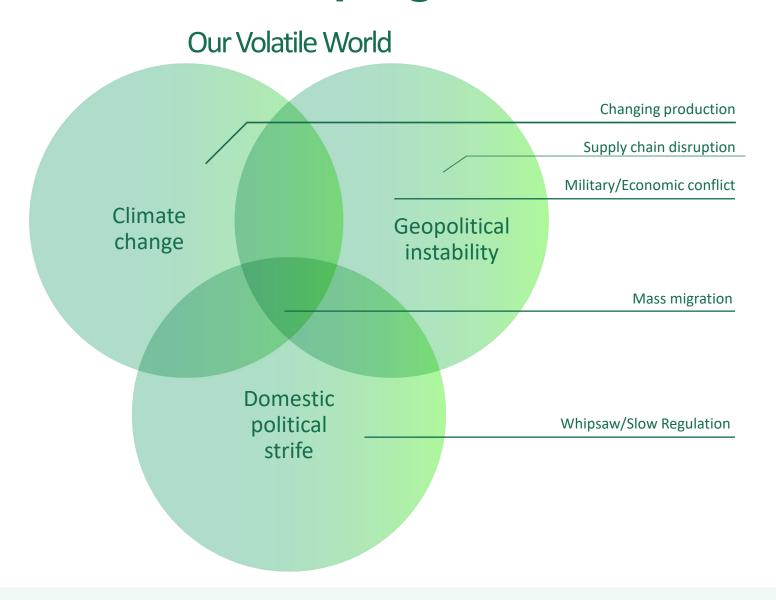




# EXCELLING IN THE SHOCK ECONOMY



# Structural forces are reshaping societies





## Uncertainty and volatility are here to stay



More market volatility

More reactive Fed

Economic volatility and uncertainty

Forecasting economic conditions has never been more important

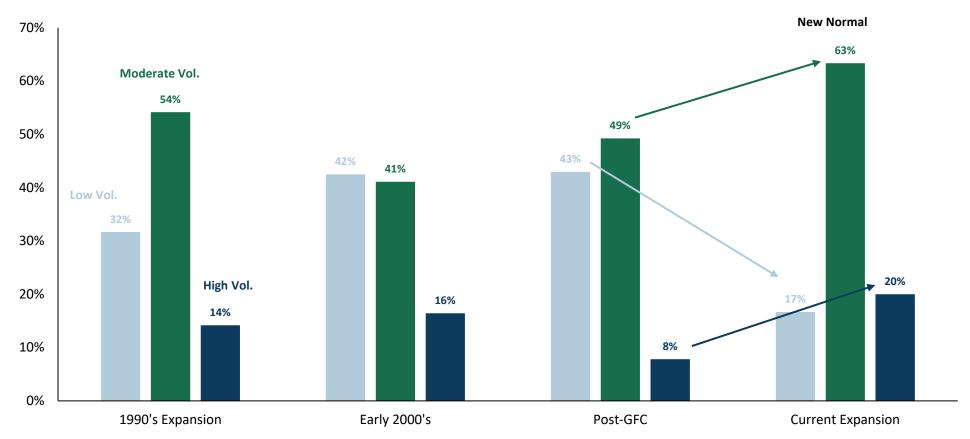


## The most volatile stock market in decades

# F

#### **VIX Index by Economic Expansion**

(Percentage of months in expansion)

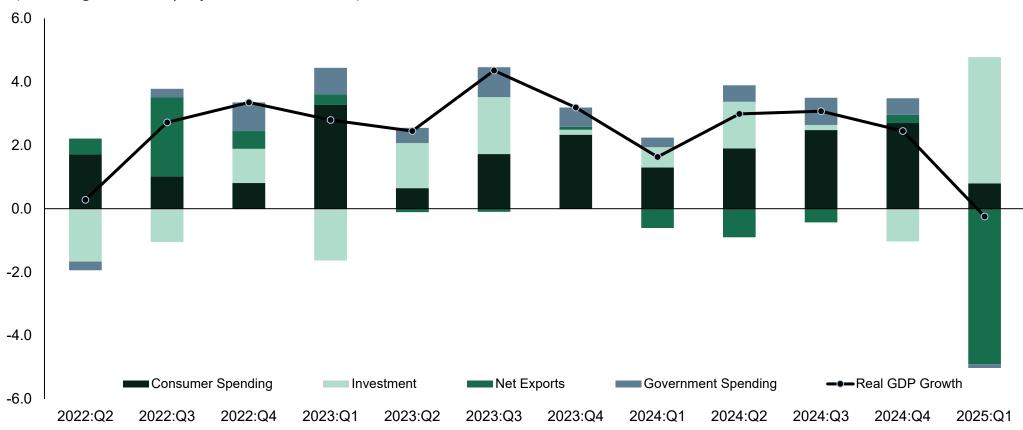


Sources: Access/Macro, Chicago Board Options Exchange. Note: Low Vol. = 01-15, Moderate Vol. = 15-25, High Vol. > 25.

# The underlying details of GDP are troubling

#### **Contributions to Real GDP Growth**

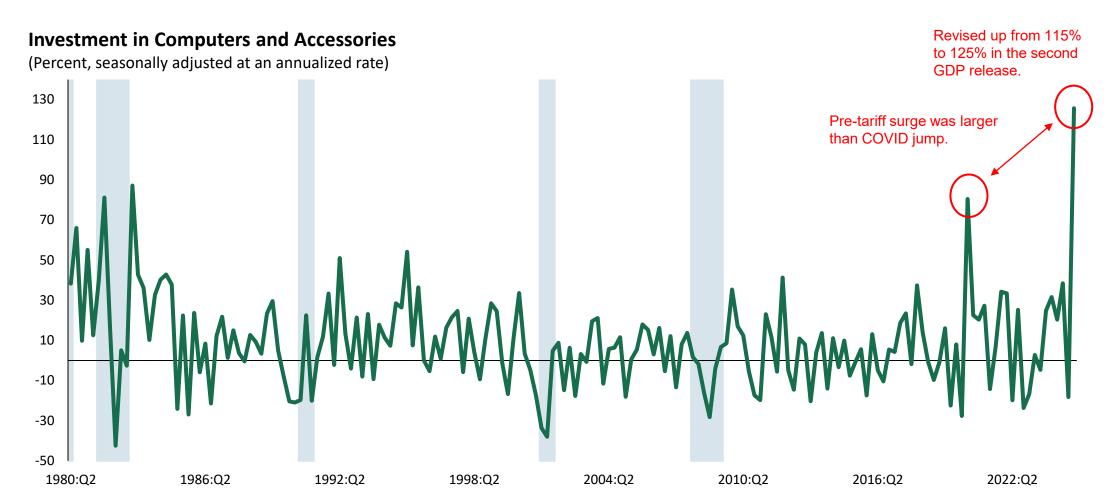
(Percentage, seasonally adjusted annualized rate)



Source: Access/Macro and the Bureau of Economic Analysis.



# Tariff front-running drove the investment boom

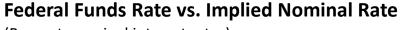


Sources: Access/Macro, Bureau of Economic Analysis.

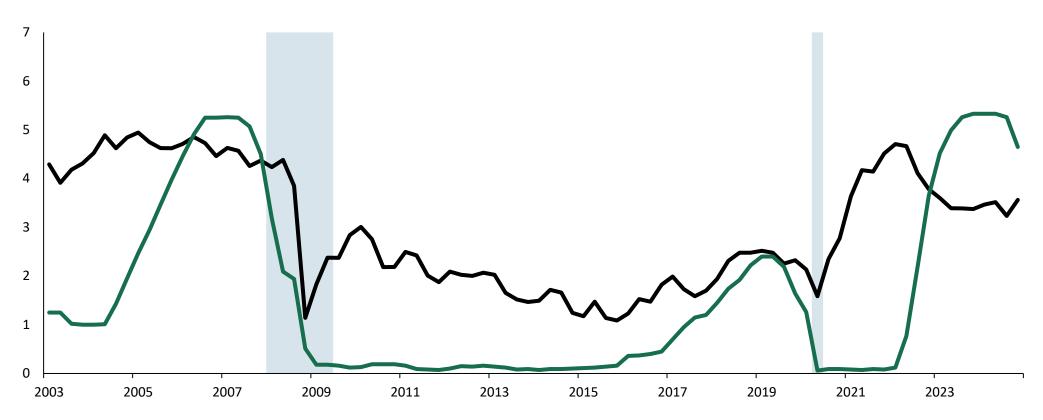


# Monetary policy is very restrictive





(Percent, nominal interest rates)



<sup>1/</sup> The implied nominal interest rate is the LW real-time estimate of r-star plus the five-year ahead inflation expectation from the University of Michigan Surveys of Consumers. Sources: New York Fed, University of Michigan, Access/Macro.

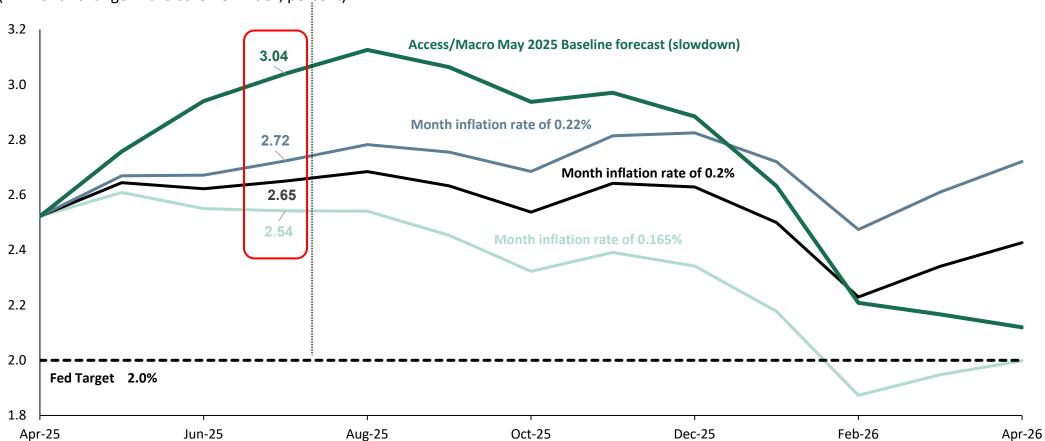


# We're entering a tricky summer for inflation

# **F**/

#### **Selected Inflation Scenarios for the Next 12 Months**

(12-month change in the core PCE index, percent)



Sources: Access/Macro and the Bureau of Economic Analysis.

# Fed may still pause in 2025

#### **Federal Funds Rate Scenario Comparison By Meeting**

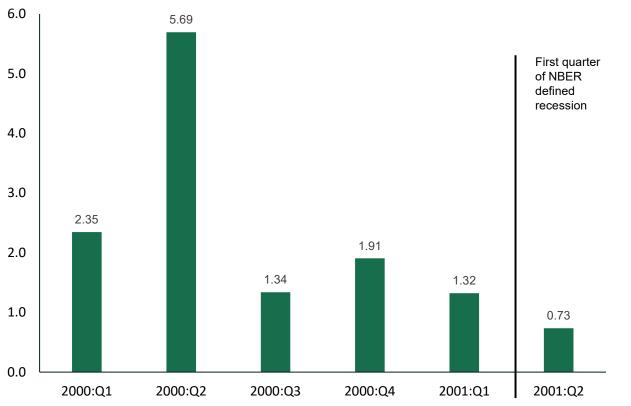
	Slowdown (baseline)					Stagcession (downside)			
Fed Meeting Date	Lower Bound	Midpoint	Upper Bound	Change		Lower Bound	Midpoint	Upper Bound	Change
5/7/2025	4.25	4.38	4.50			4.25	4.38	4.50	0.00
6/18/2025	4.25	4.38	4.50	0.00		4.25	4.38	4.50	0.00
7/30/2025	4.25	4.38	4.50	0.00		3.75	4.38	4.00	-0.50
9/17/2025	4.25	4.38	4.50	0.00		3.00	4.38	3.25	-0.75
10/29/2025	4.25	4.38	4.50	0.00		2.50	4.38	2.75	-0.50
12/10/2025	4.25	4.38	4.50	0.00		2.00	4.13	2.25	-0.50
1/28/2026	4.25	4.38	4.50	0.00		2.00	4.13	2.25	0.00
3/18/2026	4.00	4.13	4.25	-0.25		1.75	3.88	2.00	-0.25
4/29/2026	4.00	4.13	4.25	0.00		1.75	3.88	2.00	0.00
6/17/2026	3.75	3.88	4.00	-0.25		1.75	3.63	2.00	0.00
7/29/2026	3.75	3.88	4.00	0.00		1.75	3.63	2.00	0.00
9/16/2026	3.50	3.63	3.75	-0.25		1.75	1.88	2.00	0.00
10/28/2026	3.50	3.63	3.75	0.00		1.75	1.88	2.00	0.00
12/9/2026	3.25	3.38	3.50	-0.25		1.75	1.88	2.00	0.00

# Turning points often show up later

# F

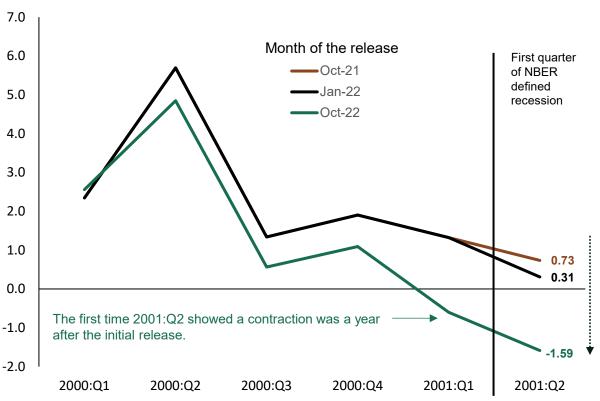
#### Real GDP Growth in Real-Time<sup>1</sup>/, 2001 Recession

(Percentage, seasonally adjusted annualized rate)



#### **Evolution of GDP Revisions, 2001 Recession**

(Percentage, seasonally adjusted annualized rate)



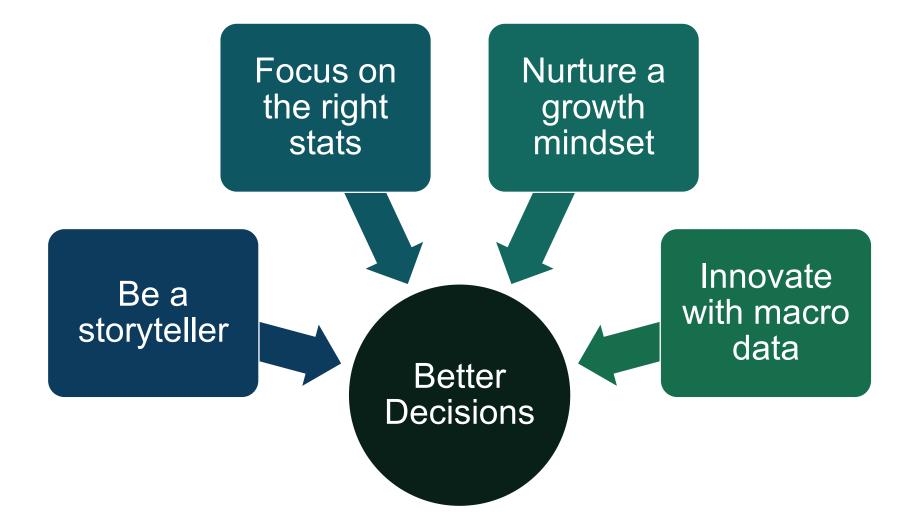
<sup>1/</sup> The data is what was available in July of 2001 when the advanced (first print) of GDP was released.

Sources: Access/Macro, Philadelphia Fed, Bureau of Economic Analysis.



<sup>2/</sup> The NBER officially dated the recession from 2001:Q2 through 2001:Q4 (three quarters).

# How to leverage volatility





# To capitalize on Al, hire the right people

can you please forecast the wti oil price quarterly through the end of 2026

Can you explain the variables and econometric specification you used to forecast this?

#### **Econometric Methodology**

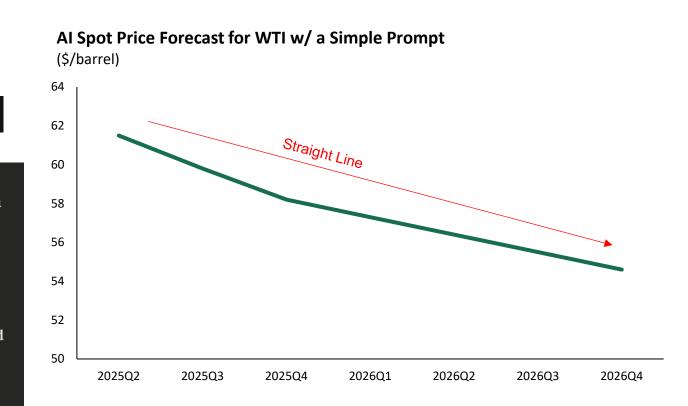
The forecast employs multiple time series modeling approaches, with the final result being a combination of:

#### 1. Statistical Time Series Models:

- · ARIMA (AutoRegressive Integrated Moving Average)
- · ETS (Exponential Smoothing State Space)
- TBATS (Trigonometric seasonality, Box-Cox transformation, ARMA errors, Trend, and Seasonal components)

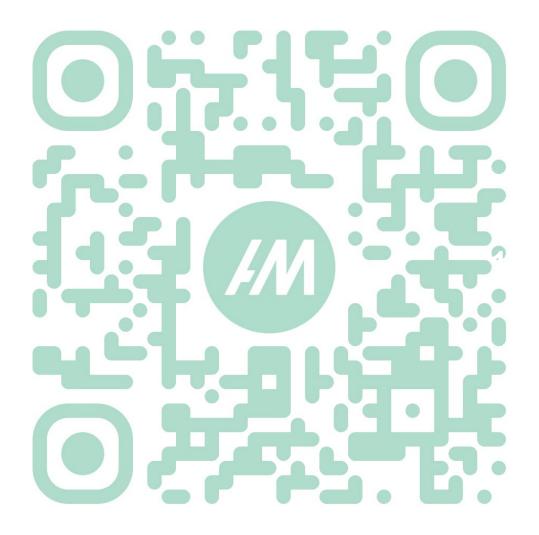
#### 2. Consensus Industry Forecasts:

 Incorporated external forecasts from sources like EIA, Goldman Sachs, J.P. Morgan, and other industry analysts





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#### What they're saying:

Access/Macro helps us stay ahead of the uncertainty and strengthen our bank, which led to one of our best quarters ever at the start of 2025. We're on pace for a record year!

- NW community bank management team

### How we support banks:

1 Detailed interest rate forecasting

2 Scenario modeling

3 Database architecture & builds



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# The History, Current State, and Future of Financial Education



**Elena Zee** 

President and CEO elenazee@azecon.org

## About Me

- First job: Data Modeling at American Express
- Director of International Operations, VP of Information Management at American Express
- Certified Financial Planner
- Serving on the board of ACEE
- ACEE President and CEO
- Calvin K. Kazanjian Economics Foundation



# Does Financial Literacy Make any Difference?

Spending less than income

Higer FL 53% Lower FL 35%

I always paid my credit cards in full

Higer FL 64% Lower FL 53%

Have you set aside emergency or rainy day funds that would cover your expenses for 3 months?

Higer FL 65% Lower FL 43%

Do you have any retirement plans through an employer?

Higer FL 64% Lower FL 39%



# 2023 FINRA Financial Capability Survey

% with Financial Knowledge (inflation and interest rate)

Arizona 33%

Colorado 36%

% with at least 3 months of Emergency funds

Arizona 51%

Colorado 59%

Do you have any retirement plans through an employer?

Arizona 47%

Colorado 55%



# History of Financial Education

- 1700s-1800s –Benjamin Franklin "A penny saved is a penny earned"—instilled values of frugality and foresight.
   Alexander Hamilton and James Gilbart, believed that everyone—not just the rich—should have a bank account, striving to educate the public about banking and its benefits. Learned from Family.
- 1900s Smith-Lever Act of 1914 practical education home economics
- 1970s College for Financial Planning, Jump\$tart, JA, Council on Economic Education. Community Reinvestment Act (CRA) in 1977.
- 1990s–2000s National Endowment for Financial Education, April Financial Literacy Month (2003). National Standards for Personal Finance Education, Curriculum, Games. Financial Institutions.
- 2020s Digital Technology, Advocacy
  - YNAB, Mint, Banzai, Stash, Acorns, Goalsetter, RoosterMoney, Foolproof, Zogo, ChangeEd, Everfi, FamZoo, BusyKid, Homey....

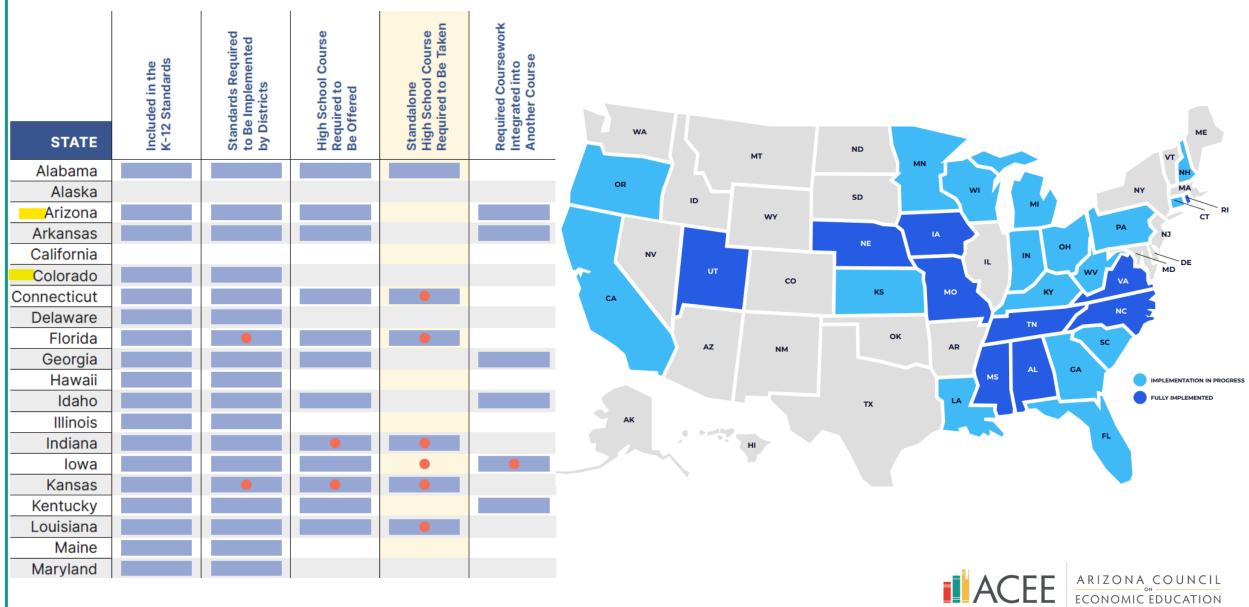


# Ways and Phases of Implementation

- 1. Academic standards are established and introduced to the schools what needs to be taught?
- 2. Academic standards are required to be implemented they need to be taught
- 3. A high school course is required to be offered when must it be taught?
- 4. A standalone high school course is required to be taken how much time must be required to learn it?
- 5. A high school course is taken with another subject, e.g. math, CTE, economics how should it be taught?



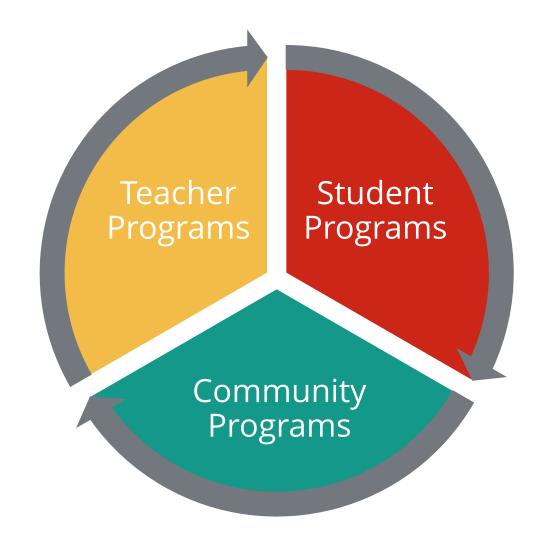
### STATUS OF PERSONAL FINANCE EDUCATION ACROSS THE NATION



Sources: CEE Survey of the States 2024, NGPF 2025. Colorado and Texas are the two most recent states that passed legislation.

# What is the Future of Financial Education?

- Core curriculum
- In Every State
- Private and nonprofit partnership
- Many iterations on how to best teach it
- From Teach More to Teach Less is More
- User-friendly digital apps





## **YOU Can Make the Difference**

- Ask questions
- Advocate
- Volunteer engagement
- Financial Investment
- Open-minded









## Agenda





# I. INTRODUCTION: WHAT ARE STABLECOINS?

#### What are Stablecoins?

Cryptocurrencies designed to maintain stable value by pegging to a reserve asset or basket of assets



- Instant processing and security of cryptocurrencies with stable valuations of fiat currencies
- Store of value and medium of exchange
- Blockchain-based
- Programmable money
- Typically, but not always, pegged to the dollar
- Do not rely upon a third-party intermediaries such as banks, payment processors, card networks and others

## Stablecoin Peg Mechanism Types

A stablecoins peg mechanism adjusts the underlying risk profile and regulatory compliance

Low Risk Moderate Risk High Risk

## Sovereign Fiat/Assets 1:1

Commodities (e.g., Gold)

**Algorithmically** 

- USDC & EUROC pegged to USD & EUR, respectively.
- Reserves are held 1:1 at regulated financial institutions.
- Third-party audits of reserves required.
- Generally issued by qualified, regulated institutions.

- PAXG Pegged to Gold.
- Reserves are moderately liquid and held in physical vaults.
- Generally issued by qualified, regulated institutions.

- TerraUSD (UST) pegged to an algorithm verse 1:1 reserves.
- Little to no human control or intervention.
- Can be issued by anyone and is not regulated.



## **Stablecoin Market Cap**

Since 2020, stablecoins have grown from \$13bn to more than \$200bn in market cap



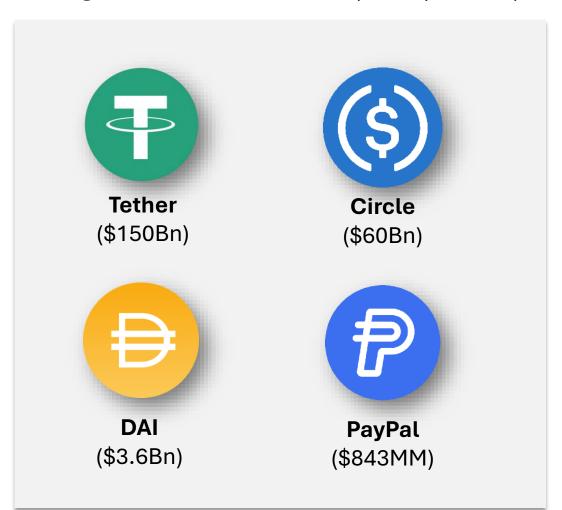
#### **Stablecoin Growth Details:**

- Primary on-ramp and off-ramp for crypto markets. 100M+ people use stablecoins, with ~40M people transacting monthly (YoY increase of 53%, as May 2025).
- In 2024, stablecoins facilitated \$15.6 trillion in transfers; equivalent to Visa's annual volume.
- ~99% of Stablecoins market capitalization is denominated in USD.



## **Largest Stablecoin Issuers**

The largest stablecoins are USDT (Tether), USDC (Circle), DAI, and PYUSD (PayPal USD)

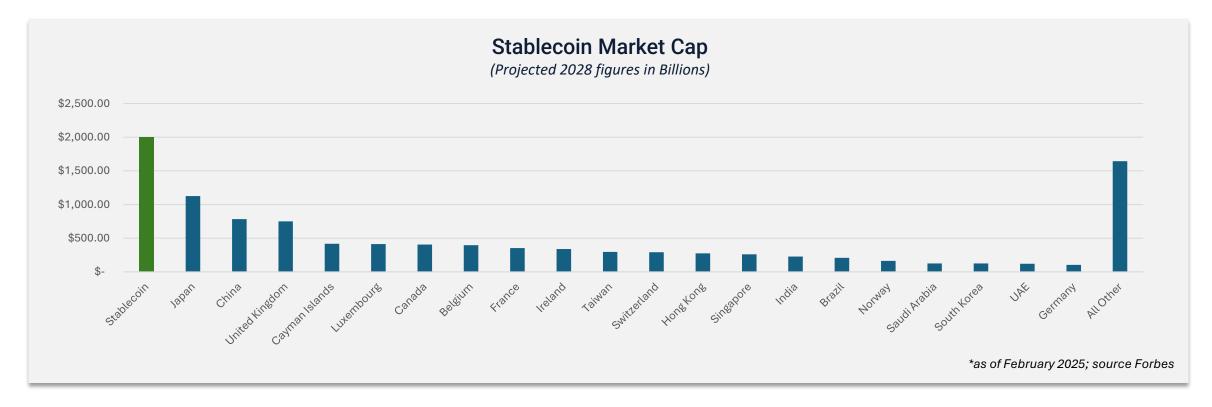


#### **Key Characteristics:**

- Each are US Dollar denominated and backed 1:1 by USD and USD equivalents (US Treasuries, etc.)
- Tether (USDT) and USD Coin (USDC) combined market share was nearly 90%
- Issued and redeemed (minted / burned) using blockchain-based smart contract technology

## Stablecoins Driving New U.S. Treasury Demand

In 2028, Stablecoins projected to surpass U.S. Treasury holdings of Japan & China combined



#### **Market Implications:**

- U.S. dollar stablecoins could rival or surpass traditional sovereign creditors.
- Market-based infrastructure powered by code and regulation verse geopolitical reliance.
- Stablecoin issuers would hold USD reserves 1:1 making steady, transparent source of Treasury demand.



## Why Stablecoins Matter to Banks

The Allure: Faster, Cheaper, and More Efficient?

Enhanced Payment Speed & Efficiency	Near real-time settlement (24/7/365) compared to traditional rails (e.g., ACH, wires which have cut-off times)
Reduced Transaction Costs	Particularly for cross-border payments and remittances by minimizing intermediaries
Programmability	Smart contracts can automate payments, escrows, and other financial agreements
Transparency	On-chain transactions offer a degree of transparency
Financial Inclusion	Potential to reach unbanked and underbanked populations

#### Stablecoin Use Cases & Benefits



All financial markets crave the existence of a **safe, low-risk asset** which allows traders to **move out of risky positions into safe ones** where the safe **asset price is known and stable**. The beauty of **financial innovation** is that if a **market demands** such an asset, someone will figure out how to supply it. Thus, **stablecoins were born**.

- Christopher J. Waller, Federal Reserve Governor



#### PRIMARY STABLECOIN USE CASES







Cross-border payments

Transaction Settlement Speed

Risk Management

#### **Benefits:**

- U.S. Dollar dominance proposed legislation requires 1:1 peg to assets backed by USD reserves; purchase of short-term treasuries.
- Transaction Efficiency 24/7/365 on-chain and with lower transaction fees than traditional banking rails (ACH, wires).
- **Decentralization** pegged to fiat and regulated by sovereign nations, stablecoins are decentralized unlike a Central Bank Digital Currency (CBDC).
- Store of Value and Hedge not a traditional investment vehicle but provide risk mitigation during periods of price volatility outside of the US.

## Use Case: Cross Border B2B Payment



https://a16zcrypto.com/posts/article/how-stablecoins-will-eat-payments/



### **Use Case: B2C Payments**



https://a16zcrypto.com/posts/article/how-stablecoins-will-eat-payments/



## **Comparison of Common Payment Methods**

Payment Type	Transaction Fee	Time to Settle	Notes alózcrypto		
Credit Card Payment	2-3% + \$0.30	Instant to Merchant	High fees for Merchant. Chargeback risk.		
Debit Card Payment (Regulated)	Regulated: 0.05% + \$0.21 Durbin Amedment: 0.9% + \$0.15	Instant to Merchant	Low fees, subject to Durbin Amendment caps		
ACH Transfer	\$0.20 - \$1.50	3-5 Business Days	Limited to domestic transfers. Funding risk.		
International Wire Transfer	\$30 - \$50	1-5 Business Days	High fees, exchange rate markups.		
Remittance Service	6.65% (for \$200)	Minutes to Days	Varies by service and destination country.		
Peer-to-Peer Free (p2p) Payment App 1-3% (Business)		Instant to 1 Day	Fees apply for instant transfers, credit card use, and payments.		
Stablecoin Transfer	<\$0.01	Seconds to Minutes	Global availability, minimal fees.		

https://a16zcrypto.com/posts/article/how-stablecoins-will-eat-payments/



# Potential Profitability Enhancements through Stablecoins



Walmart, with an annual revenue of \$648 billion, may face around \$10 billion in credit card fees, resulting in a profit of \$15.5 billion. By adopting more cost-effective payment options, Walmart could potentially boost its profitability by 60%.



Chipotle, which generates \$9.8 billion in annual revenue, spends \$148 million on credit card fees and achieves an annual profit of \$1.2 billion. Reducing these fees could enhance Chipotle's profitability by 12%.



Kroger's net income and payment processing costs might be nearly equal. Like many grocery retailers, its profit margins are below 2%, which is less than the typical credit card transaction fees. By adopting stablecoin payments, Kroger could potentially double its profits.

https://a16zcrypto.com/posts/article/how-stablecoins-will-eat-payments/





# II. THE EVOLVING REGULATORY LANDSCAPE

# **Global Stablecoin Regulatory Frameworks**



MiCa (Markets **Crypto-Assets** in **Regulation)**: MiCa is a regulatory framework established by the European Union to provide legal certainty and consumer protection for crypto-assets, including stablecoins. It aims to create a harmonized approach across EU member states, ensuring that issuers of stablecoins adhere to strict requirements regarding transparency, governance, and reserve management. MiCa also includes provisions for anti-money laundering (AML) and combating the financing of terrorism (CFT) to enhance the security and integrity of the crypto market

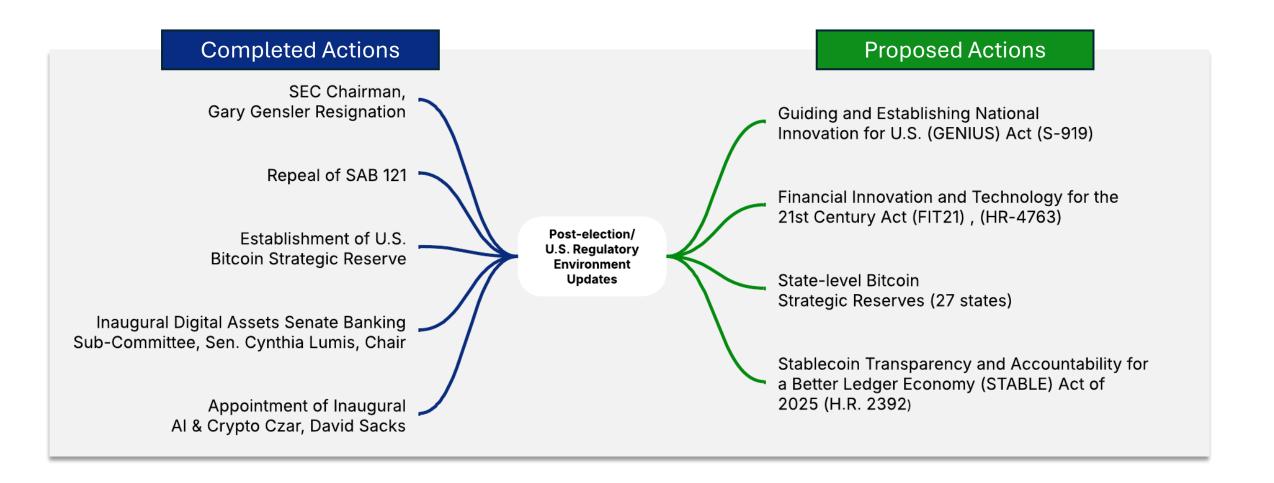


**Singapore MAS (Monetary Authority of Singapore):** The Monetary Authority of Singapore (MAS) has implemented a comprehensive regulatory framework for stablecoins, focusing on promoting innovation while ensuring financial stability and consumer protection. The MAS requires stablecoin issuers to maintain high standards of transparency, including regular audits and disclosures of reserve assets. Additionally, the framework emphasizes AML/CFT compliance and the need for robust governance structures to safeguard against risks associated with stablecoins



**UAE (United Arab Emirates):** The UAE has developed a forward-thinking regulatory approach to stablecoins, aiming to position itself as a global hub for digital assets. The UAE's framework includes stringent requirements for reserve management, transparency, and governance to ensure the stability and reliability of stablecoins. The regulations also emphasize the importance of AML/CFT measures and encourage collaboration between regulators industry stakeholders to foster innovation and growth in the digital asset sector

# Digital Asset Regulatory Environment Since January 2025



### Deep Dive: The GENIUS Act

Ensuring transparency and compliance in stablecoin issuance

### **Reserve Requirements**:

- Must maintain **1:1 backing** of issued stablecoins with high-quality liquid assets (e.g., cash, T-bills, insured deposits).
- Reserves must be segregated and audited or examined monthly

### **Redemption Rights**:

Must offer clear, enforceable redemption procedures for users to convert stablecoins back to fiat 1

### **Disclosures & Reporting:**

- Monthly reports on reserve composition and outstanding stablecoins.
- Reports must be certified by executives and examined by a public accounting firm 1

### **AML & Compliance**:

- Subject to the Bank Secrecy Act (BSA) and Know Your Customer (KYC) rules.
- Must implement sanctions screening and risk management programs.

### **Governance & Oversight**:

- Executives and board members must pass background checks.
- Individuals with financial crime convictions are **barred from leadership roles**





# III. RISKS AND CHALLENGES FOR THE BANKING SECTOR

# Risk and Challenges for the Banking Sector

Stablecoins present some new and traditional risks and challenges to banks engaging with them

### Financial Stability & Systemic Risks

- Run Risk & Reserve Integrity
- Contagion & Interconnectedness
- Impact on Bank Deposits

# Operational & Technological Risks

- Cybersecurity
- Technology Integration
- Smart Contract
   Vulnerabilities

# Compliance & Regulatory Risks

- AML/CFT/Sanctions
- Evolving Regulations
- Consumer Protection



# IV. THE INNOVATOR'S DILEMMA

# The Innovator's Dilemma: Stablecoins as a Disruptive Force

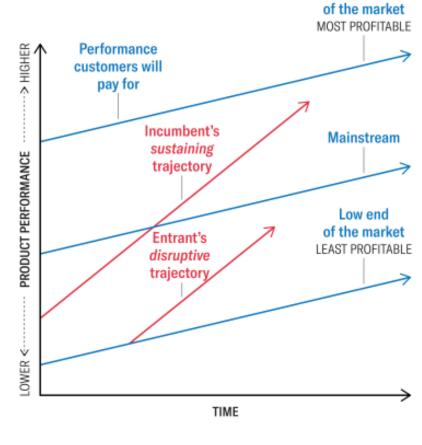
Clay Christensen's classic theory on disruptive innovation offers a glimpse into potential impact of stablecoins





#### The Disruptive Innovation Model

This diagram contrasts product performance trajectories (the red lines showing how products or services improve over time) with customer demand trajectories (the blue lines showing customers' willingness to pay for performance). As incumbent companies introduce higher-quality products or services (upper red line) to satisfy the high end of the market (where profitability is highest), they overshoot the needs of low-end customers and many mainstream customers. This leaves an opening for entrants to find footholds in the less-profitable segments that incumbents are neglecting. Entrants on a disruptive trajectory (lower red line) improve the performance of their offerings and move upmarket (where profitability is highest for them, too) and challenge the dominance of the incumbents.



Source: Clayton M. Christensen, Michael E. Raynor, and Rory McDonald

From: "What Is Disruptive Innovation?" December 2015

**▽ HBR** 

High end

### The Innovator's Dilemma: Stablecoins as a Disruptive Force

In the 1980s, established companies like Seagate dominated the market for 14-inch disk drives used in mainframe computers. These drives were high-margin, high-performance products tailored to their best customers.

Then came smaller 8-inch and later 5.25-inch drives, which had:

- Lower capacity
- Worse performance

But were cheaper, smaller, and fit new markets like minicomputers and later personal computers

The incumbents ignored these new drives because:

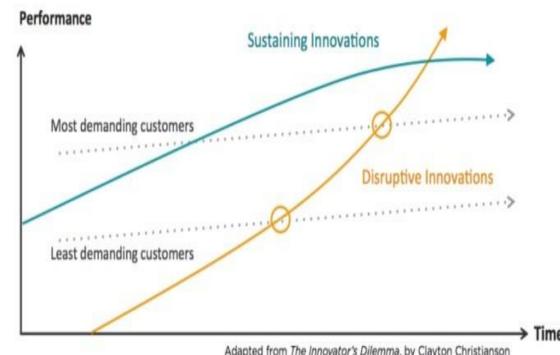
- Their best customers didn't want them
- The margins were lower
- The technology seemed inferior

But over time, the smaller drives improved rapidly, captured new markets, and eventually displaced the incumbents.



## The Innovator's Dilemma: Stablecoins as a Disruptive Force

- **Initial Niche Appeal** 
  - First gained traction in crypto trading, DeFi, and specific remittance corridors – areas potentially seen as peripheral by some traditional banks.
- Different Value Proposition
  - ✓ Offer speed (24/7 real-time), lower cost (especially crossborder), and programmability that may appeal to overlooked customer segments.
- "Good Enough" Solutions
  - For certain users, stablecoins offer superior solutions for specific needs, despite lacking traditional banking features.
- Focus on current, high-margin customers who may not (yet) demand stablecoins
- Regulatory uncertainty or perceived compliance complexities
- Initial lower transaction values or revenue potential



### The Path to Disintermediation

Disruptive innovations often improve rapidly, becoming mainstream and displacing incumbents. Stablecoins could increasingly encroach on core banking functions if proactive strategies aren't developed

- Customers can hold value in stablecoins instead of keeping money in checking or savings accounts
- Stablecoins enable instant, low-cost, cross-border payments without SWIFT, Fedwire, or ACH
- DeFi (Decentralized Finance) platforms built on stablecoins allow P2P lending, bypassing banks entirely
- Stablecoin platforms capture direct relationship with users, collecting valuable data on spending and financial behavior – banks risk losing customer interface and data, which are crucial for cross-selling and personalization





Risk of becoming "dumb pipes" or mere infrastructure if innovation is left to nimbler fintechs



# V. STRATEGIC CONSIDERATIONS FOR BANKS

## Opportunities for Banks in the Stablecoin Ecosystem

Issue a bank-backed stablecoin

Partner with existing stablecoin issuers

Custody and settlement for stablecoins

Leverage stablecoins within bank

Participate in new rails and networks



### Charting the Course for Banking in a Stablecoin Future

### A Dual Strategy for Banks

Defend Existing Core Business Explore Opportunities w/ Stablecoins

Protect current revenue streams Strategically position for future growth and relevance in digital assets

### 1. Acknowledge the Innovator's Dilemma

✓ Recognize a "wait and see" approach can be dangerous

### 2. Assess Internal Capabilities

✓ Evaluate technology, risk management, and compliance readiness

### 3. Identify Target Use Cases

✓ Where can stablecoins provide the most value for your bank and your clients?

### 4. Define Risk Appetite

 Determine the institution's comfort level with this new asset class

### 5. Regulatory Engagement

 Stay informed and actively engage with developing frameworks

### 6. Partnership vs. Build vs. Invest

✓ Decide the best market entry approach

#### 7. Focus on Client Demand

✓ Understand current and anticipate future client needs in this evolving space



### The Future Outlook

- Continued Growth and Mainstream Adoption
  - ✓ Expect stablecoin market cap and transaction volumes to continue their upward trajectory
- Regulatory Clarity as a Catalyst (and Constraint)
  - ✓ Passage of legislation like the GENIUS Act in the U.S. and similar frameworks globally will shape the market
- Increased Institutional Involvement
  - ✓ More banks, asset managers, and corporations will likely engage with stablecoins as regulatory frameworks mature
- Technological Evolution
  - ✓ Innovations in blockchain technology, scalability solutions (Layer 2s), and privacy-enhancing technologies will impact stablecoin utility
- Convergence with Traditional Finance
  - ✓ Greater integration of stablecoins into existing financial infrastructure and processes.
- Focus on Resilience and Investor Protection
  - ✓ Lessons from past failures will drive demand for well-regulated, transparent, and robustly backed stablecoins



### **Conclusion and Key Takeaways**

Stablecoins are no longer a niche experiment; they are significant and growth part of the digital asset ecosystem with real-world applications

They present a dual-edge proposition for banks: a potential source of competition framed by the Innovator's Dilemma, but also a powerful tool for innovation, efficiency, and new revenue streams

Proactive engagement is essential. Are banks ready to reimagine and reinvent themselves? Banks should:

- Educate themselves and their teams on the technology and its disruptive potential
- Strategize how to navigate risks and capitalize on opportunities, avoiding the pitfalls of incumbency
- Consider their role in this evolving landscape from service provider to issuer to innovator

Regulatory clarity (e.g., via the GENIUS Act) is a critical enabler and will significantly influence bank participation and the overall market structure. A federal framework is needed

The future of money is evolving rapidly. Understanding and strategically engaging with stablecoins is key to navigating that future successfully





# QUESTIONS?



# Budgets Are Tight. Be Intentional.

Craft Your Message Deliberately.

June 2025

**Emily Riecke**Consultant
Rivel Banking Research





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## THE RIVEL BANKING BENCHMARKS

Largest syndicated banking studies in the world



200,000+

Household and business interviews annually



Repeated every six months



Representative by income, ethnicity, age, gender, etc.



Double-blind and non-sponsored (for accuracy and objectivity)



Metrics evolving to meet market needs

# Unlock Local Insights Drive Actionable Strategies

**Retail and Commercial Prospect** research covers demand from prospective members, pain points with local competitors, and institutional reputation within the community

**Retail Customer** research offers benchmarking and competitor trending, including share of wallet, satisfaction, and aspects of technology

...by demographics, down to the zip code





# Four Key Takeaways from Today

- What are the most unhappy consumers, likely to switch, looking for from their banking choice?
- 2 Brand attributes that matter most to the groups you care about
- Streamlined options to keep your bank's name in from of these vital future customers
- Focus on the non-negotiables in a competitive landscape featuring brand expansions and growing Fintechs and online-only options

# Who is ready to switch and why?



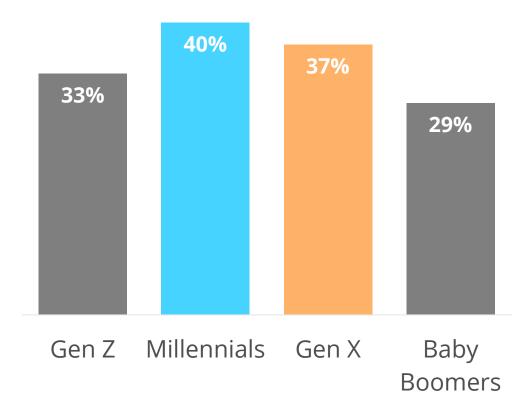
# What is the True Opportunity

Rivel Banking Research, Colorado, Q1 2025

# Vulnerability in retail market RIGHT NOW

- Very dissatisfied at current primary
- Very likely to find a new primary in the next 6 months
- Share of wallet is <25% at primary</li>

### PRIME TARGETS FOR SWITCHING





"I wouldn't use them for a mortgage as I feel like I'm just a number on paper and not overly important for the success of their business."

> - National Bank Customer Rivel Q1 2025 National Survey



# Key Drivers of Banking Satisfaction

### **CUSTOMER SERVICE**

- Friendliness
- Responsiveness
- Phone support
- Staff well trained
- Proactivity
- Not pushy
- No runaround, branch
- No runaround, phone
- Understands me

### **POLICY**

- Data safety
- Value for fees
- Prioritize my interests
- Access to non-fee ATMs
- Branch hours
- Product breadth
- Branch quality
- Deposit rates
- Branch network

### **TECHNOLOGY**

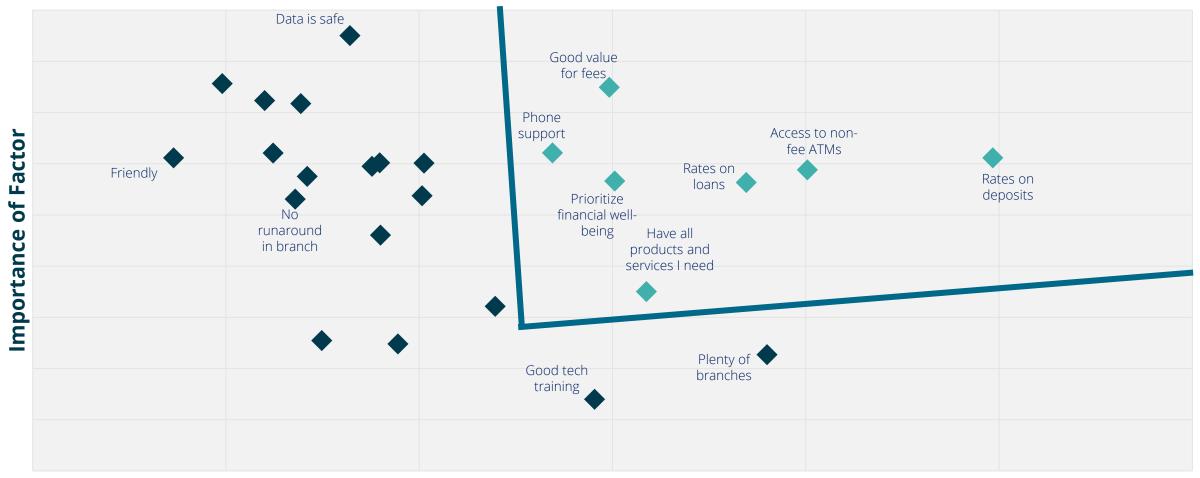
- Mobile banking
- Online banking
- Website
- > ATM quality
- Tech training
- Staff tech knowledge
- Ease of opening
  - accounts online



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# **Key Drivers of Retail Banking Satisfaction**

Rivel Banking Research, Colorado, Q1 2025 (Millennials and Gen X)



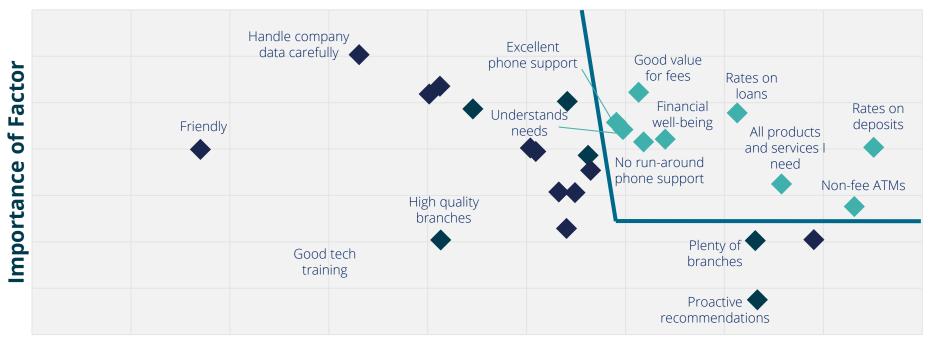
**Dissatisfaction at Current Bank** 



### **卓**

# Key Drivers of Commercial Banking Satisfaction

Rivel Banking Research, Colorado, Q1 2025



**Dissatisfaction at Current Bank** 

"I am not a fan of their increasing fees and non-competitive loan rates. It is also extremely slow and difficult to reach customer service when I need assistance."

- Commercial Banking Customer in CO Rivel Q1 2025 National Survey



"I have encountered issues with connecting to the website, and it is frustrating how they are constantly changing our main point of contact."

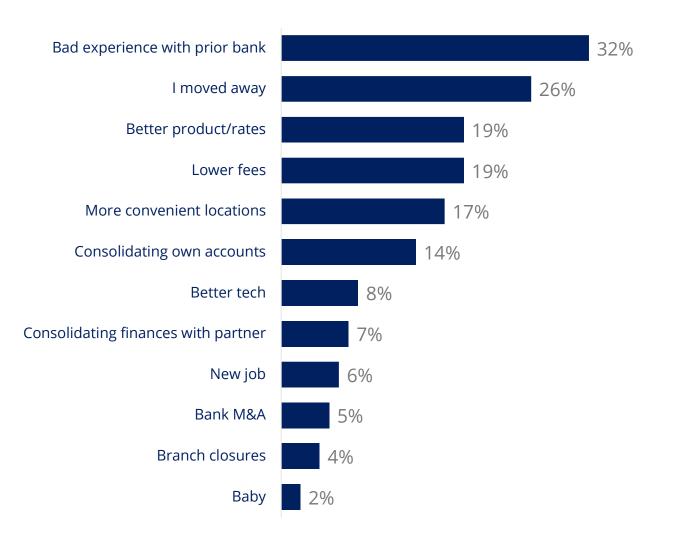
> - Commercial Bank Customer Rivel Q1 2025 National Survey





# **Reasons Switched Banks Previously**

Rivel Banking Research, Q1 2025



- 42% of Colorado respondents report having left a bank
- Millennials most likely to have switched banks due to a bad experience with a prior bank
- Gen Z more likely to switch banks due to convenient locations than other generations

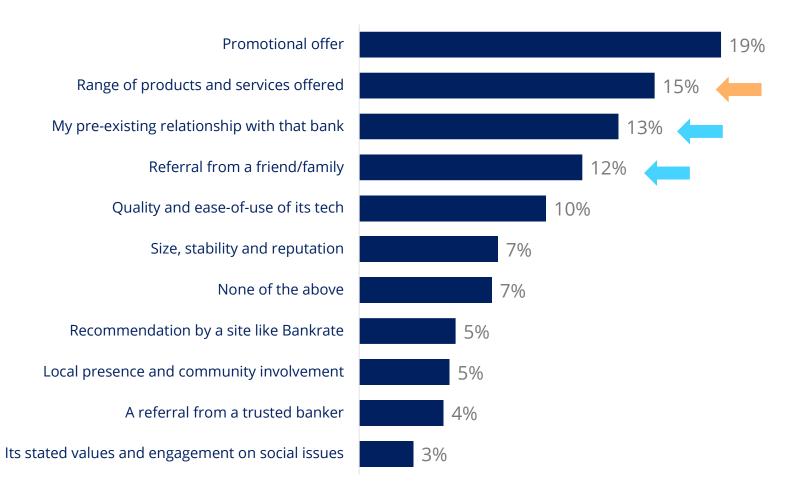




# Rates, Convenience, and Relationships

Rivel Banking Research, Q1 2025

#### WHY DID YOU PICK THE BANK YOU DID?



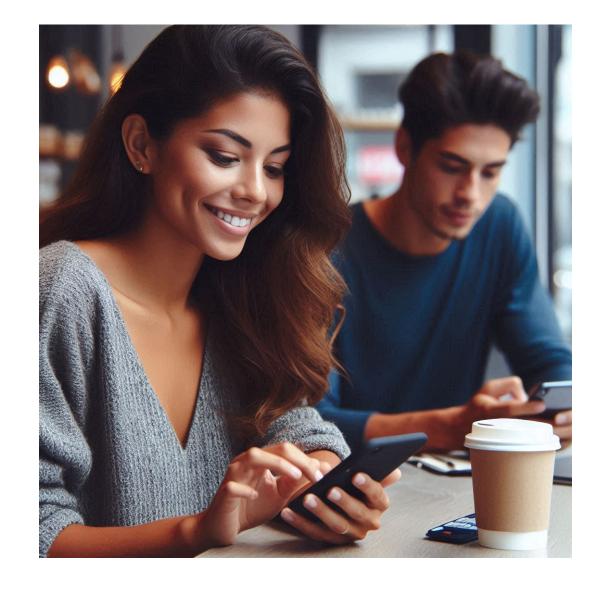
- Younger demographics are more likely to rely on a pre-existing relationship and referral from a friend/family.
- Gen X, has a wide range of needs, and wants a single home to manage all their financial needs.
- Baby Boomers are more likely to react to promotional offers.



# **Key Drivers of Banking Satisfaction**

### What matters?

- Attractive deposit and loan rates
- Has all the products and services
   I need
- Access to customers' own money (ATM or digital)
- Good value for fees
- Supports my financial well-being
- Strong customer satisfaction





# How can YOU stand out?



"If I've heard bad things about them, I'm unlikely to bank with them despite the rates. If I've not heard anything bad about them, willing to look into their products and advertised rates more."

> - National Bank Customer Rivel Summer 2024 focus group project





# **Your Reputation Precedes You**

Rivel Banking Research, Q2 2024

REGUARLY RELY ON GOOGLE REVIEWS WHEN DECIDING ON A NEW BANK



# **Your Customer Today Is An Advocate For Your Customer Tomorrow**

Only a small portion of consumers do not rely on Google Reviews in their search process, and it skews older:

- 18% of Gen Z
- 14% of Millennials
- 26% of Gen X
- 37% of Baby Boomers



# **Your Reputation Precedes You**

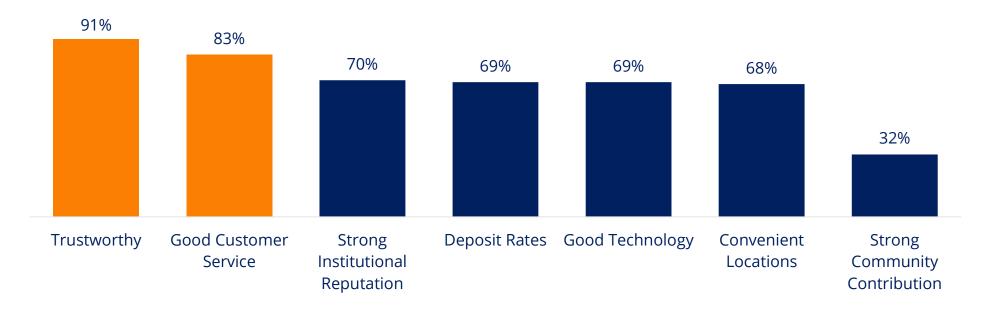




# **Brand Perception Defines the Bank**

Rivel Banking Research, Colorado, Q1 2025 (Millennials and Gen X)

#### IMPORTANCE TO INSTITUTION'S BRAND WHEN CHOOSING A NEW PRIMARY



"It has a comfortable hometown feel to the bank, which is nice from a customer service standpoint. I also like that there are several branches near me to use."

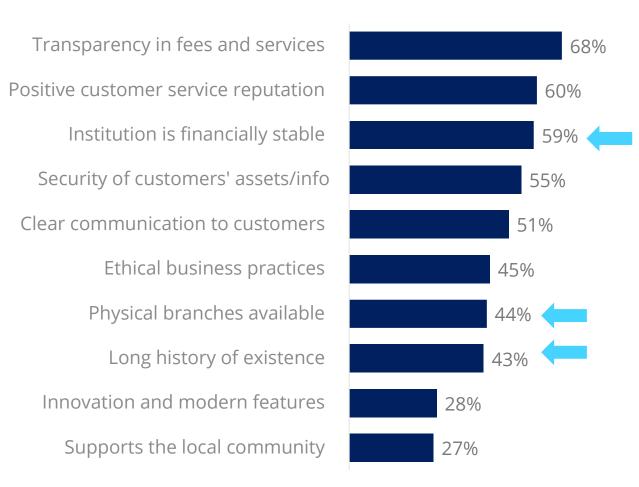
- Regional Bank Customer
Rivel Q1 2025 National Survey



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# Trustworthiness Differs by Generation

#### WHAT DOES A TRUSTWORTHY BANK MEAN TO YOU?



"I find the people there friendly and knowledgeable. I haven't had any problems with them. I feel comfortable with this bank as I have been them for about 50 years."

> - Regional Bank Customer Rivel Q1 2025 National Survey



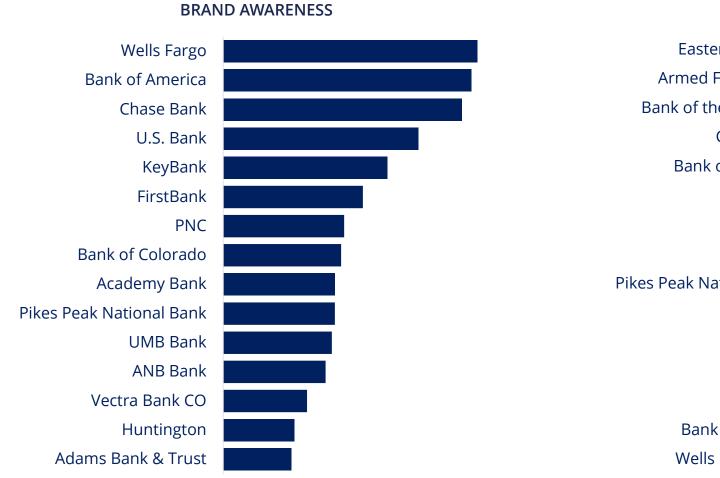
# Keeping the Brand Front and Center



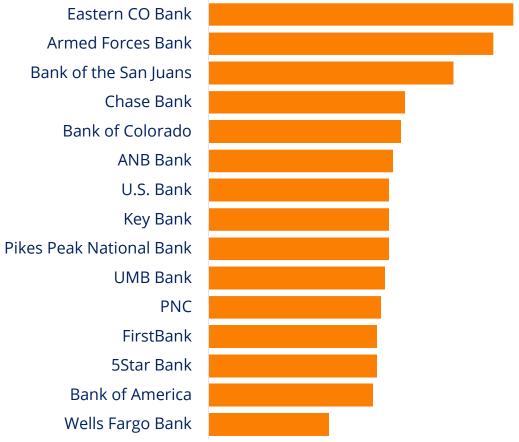


# **Awareness vs. Reputation**

Rivel Banking Research, Q1 2025 (El Paso County, CO)



## REPUTATION FOR CUSTOMER SERVICE





"I like to bank here because overall they seem to be a well-liked bank with good customer service. They been in the community for a long time and have a lot of history."

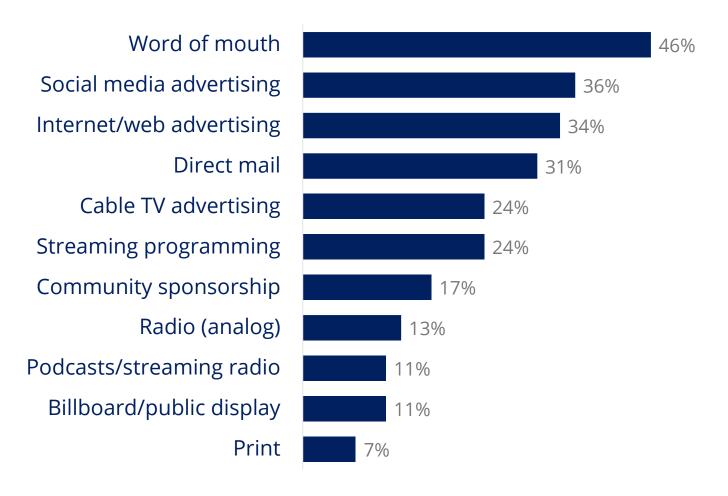
- Community Bank Customer Rivel Q1 2025 National Survey



# Where are they finding their information?

Rivel Banking Research, Colorado, Q1 2025 (Millennial and Gen X)

#### PREFERRED WAY TO DISCOVER NEW BANKING SERVICES AND PROVIDERS







# Social Media Essential to Exposure

Rivel Banking Research, Colorado Q1 2025

	Top 5 by Age						
	Gen Z		Millennials		Gen X		<b>Baby Boomers</b>
1.	Instagram	1.	Facebook	1.	Facebook	1.	Facebook
2.	YouTube	2.	YouTube	2.	YouTube	2.	YouTube
3.	TikTok	3.	Instagram	3.	Instagram	3.	LinkedIn
4.	Facebook	4.	TikTok	4.	Pinterest	4.	Instagram
5.	Snapchat	5.	Snapchat	5.	TikTok	5.	Pinterest

Which demographic will migrate where this year and beyond?

Uncertainty among Meta (Facebook & Instagram) and TikTok users, BlueSky Social as the newcomer





## Finfluencers as a Resource?

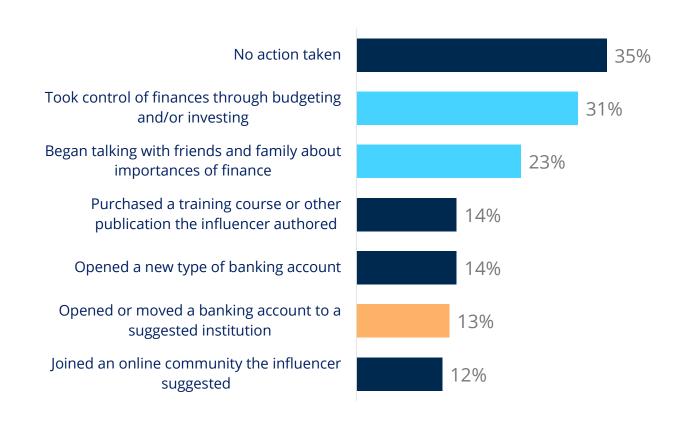
Rivel Banking Research, Q2 2024

41% of consumers rely, to some extent, on advice from financial influencers

- 57% among Gen Z
- 54% among Millennials

Financial control is most important action taken, but taking brand-specific advice is also a key channel

### **ACTIONS DUE TO INFLUENCERS**





# Balancing Services In Person and Online





Bank of America announced in May 2025 they plan to open 150 new branches by end of 2027

FinTech and online-only banks are everywhere

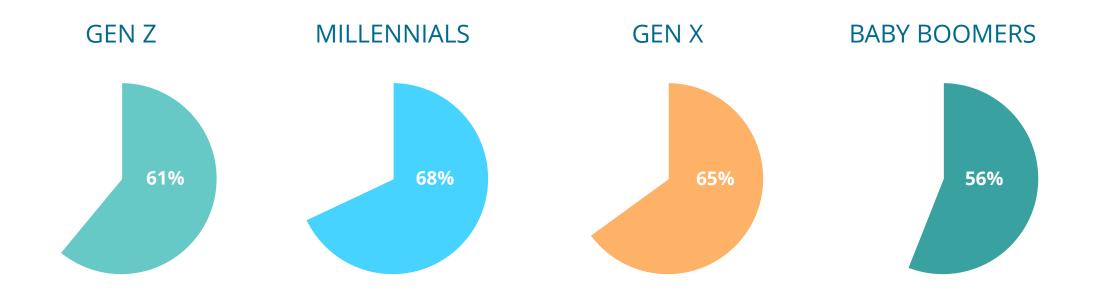
**HOW DO YOU COMPETE?** 



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# **Online-Only Preference**

Rivel Banking Research, Q4 2024



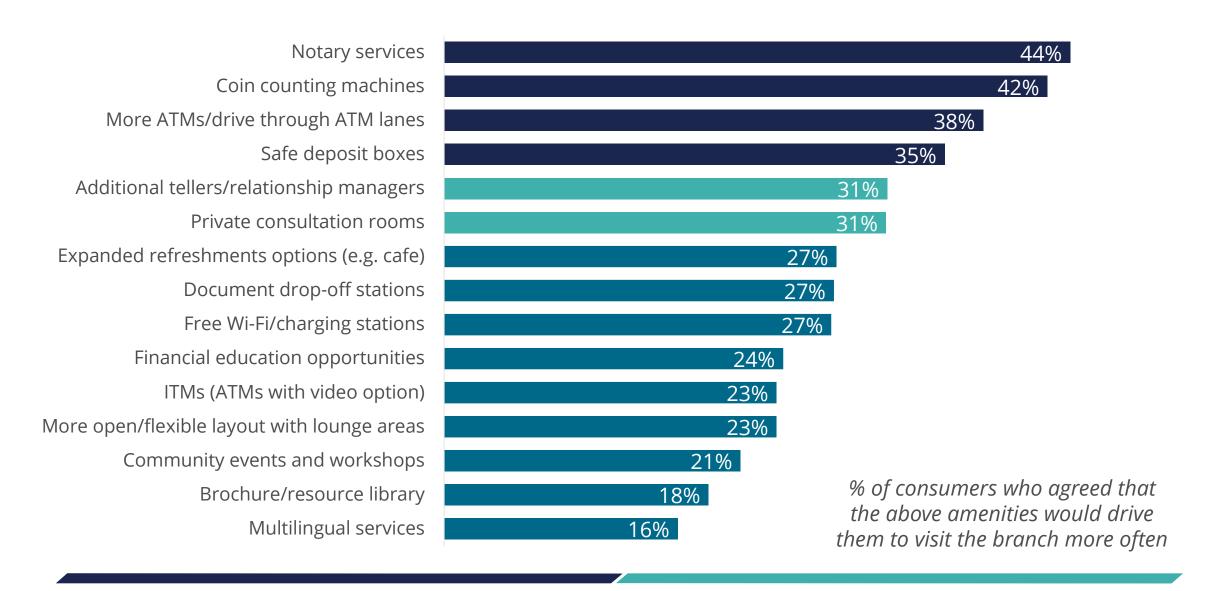
"If you could do everything related to your banking, online, (except depositing and withdrawing cash), how likely would you be to only do it online?"





# **Physical Benefits Push Consumers to the Branch**

Rivel Banking Research, Q4 2024



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# **Human Interactions is a Necessity**

Rivel Banking Research, Colorado, Q1 2025

62%

A nearby branch is necessary when evaluating a new institution

57%

UNLIKELY to open an online-only account unless they have access to human interactions

14%

Willingness to have chatbot manage inquiries low at under 15%

"Nearly 100% (no kidding) of the time when I call the bank, I am unable to complete my inquiry as either the receptionist does not answer or there is no one available in Customer Service. It is such that I dread when I have to call the bank as I know I will not be able to connect with someone on that first try."

-Regional Bank Customer Rivel Q1 2025 National Survey





# **Key Takeaways from Today**

- 1. Millennials and Gen X are most likely to look for a new primary with a focus on low fees, good rates, but importantly the support from a bank that knows them.
- 2. Trust and Customer Service are deciding factors in a choice, but those attributes need to be established from both current customers and in marketing externally
- 3. Identify your key demographic targets and tailor the messaging to align their needs and preferred channels
- **4.** Your staff are essential to meeting customers where they are at and providing exceptional service online or inperson, the human experience is non-negotiable

