FINANCIAL INTELLIGENCE *from* FHLBank Topeka

FHLBank Tenth District Credit Union Trends

Quarterly Analysis / Q3 2022

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The purpose of this analysis is to provide financial and performance trend data for member institutions headquartered in FHLBank's Tenth District comprised of Colorado, Kansas, Nebraska and Oklahoma.

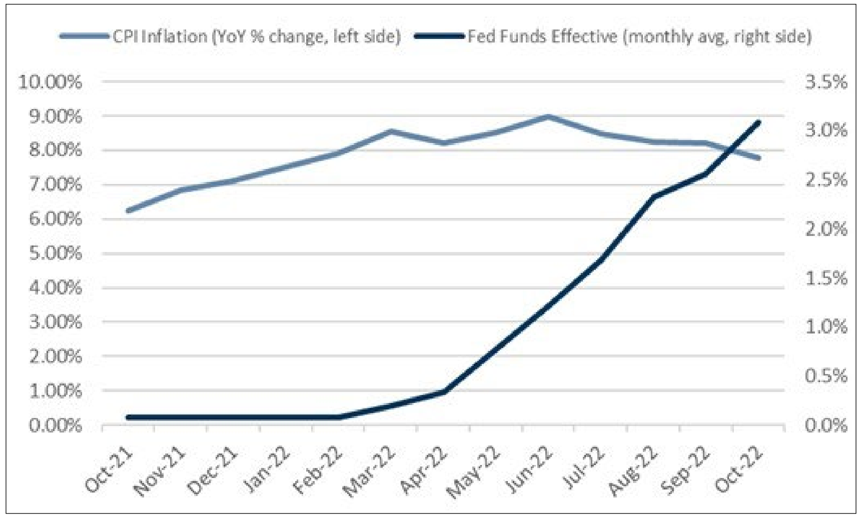
Executive Summary: Where are we today?

The quest to rein in inflation continues as the Fed raised rates for a sixth consecutive time at November's meeting.

However, the Fed's task to orchestrate a soft landing has become increasingly difficult. Trends in other economic indicators are beginning to emerge that suggest a recession is on the horizon. But if the stubborn inflation figure doesn't show a marked reversal of course soon, Fed rhetoric and policy may need to lean more dovish to allow prices a chance to catch up.

Following back-to-back quarters of negative growth, real GDP increased at an annualized rate of 2.5% in the third quarter of 2022, largely due to smaller increases in private inventory investment, an acceleration in nonresidential fixed investment, and an upturn in federal government spending.

However, aggressive Fed policy suggests this may be a short-lived trend. Following the 75 basis point jump in November, the Fed is expected to raise rates at the December meeting and into early 2023. As rates rise, business investment will likely decline further and lead to a much-needed slowdown in hirings and supply demand but may incite a mild recession in the process.



The employment situation has stagnated as employers brace for a slowdown. Job growth is measured, and wage growth is easing with real average hourly earnings decreasing 2.3% year-over-year in October 2022. Prominent sectors are seeing less and less hirings, including food services, construction and warehousing. In October, unemployment ticked up 0.2% while the labor force participation rate dropped 0.1%.

Short-term interest rates will expectedly rise with the Fed hikes. However, until recently, the 10-year Treasury yield appeared relatively capped around 3.5%. Since Aug. 1, longer rates have risen more than 100 bps across all tenors. Yet, as indicators of a slowdown materialize, look for these rates to fall.

The housing market continues to sputter after seemingly reaching a turning point in the summer of 2022. Home prices, as measured by the S&P CoreLogic Case-Shiller National Home Price Index, rose 13% year-over-year in August 2022, down from 15.6% in July. Average rates on a 30-year, fixed-rate mortgage recently tipped 7%, but are expected to cool and drop in-line with Federal Open Market Committee rate moves over the next year.

With rents remaining competitive, apartment vacancies have dwindled, leading to a sharp adjustment in favor of multifamily permitting over that of single-family starts. This trend is expected to continue into 2023 as affordability remains a primary concern to prospective homebuyers.

Source: S&P Global Market Intelligence

Given global economic uncertainty, particularly in China where COVID-19-related lockdowns persist, oil prices continue to weaken.

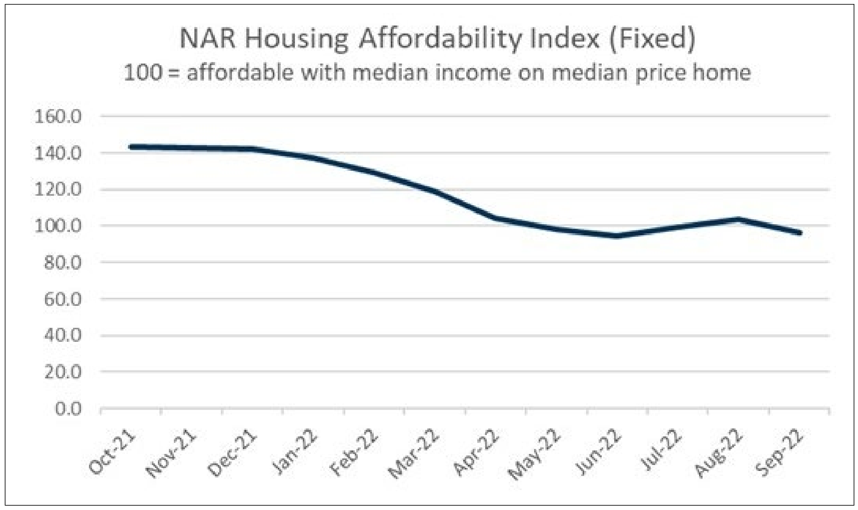
Over the past month, prices at the pump fell from a national average of $3.82 per unleaded gallon to around $3.66. Once recessionary fears truly take hold, oil prices will likely drop further as a pure reflection of reduction in demand.

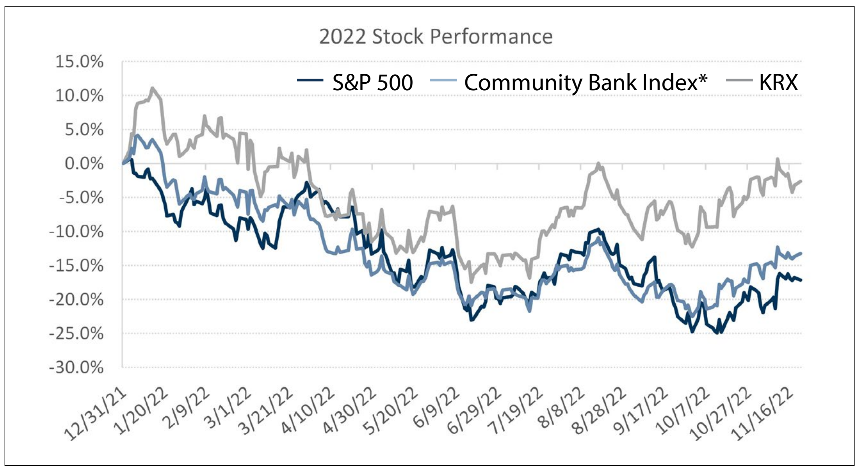
However, elsewhere in the energy sector, natural gas prices are surging as winter temps settle in. Global inventories are low given the lost production stemming from the Ukraine and Russia conflict. U.S. exports to European countries will help bridge the gap, forcing the cost to heat homes domestically upward. Harsher than expected cold spells could further exacerbate the issue.

The equity markets — and bank stocks — have been no stranger to volatility throughout the year. Rising interest rates have pummeled financial markets on a year-over-year basis, but bank stocks have proven to be a bit more resilient than the broader market as banking institutions tend to benefit when rates increase.

The murky economic outlook has kept a positive investor sentiment at bay as analysts are skeptical on the sustainability of the red-hot loan growth and are concerned with diminishing returns from additional rate hikes by the Fed.

Industry observers are focused on signals about how an economic downturn could stress the bank space





if we tighten into a recession and/or experience a credit event. However, after two months of negative returns bank stocks and the broader market rallied in October and have been stable through the first part of November.

Turbulent markets, regulatory headwinds and rapidly rising interest rates are weighing down merger and acquisition (M&A) activity. Worries over inflation and growing concerns over a potential economic slowdown, along with lower bank stock valuations have contributed to a reduced M&A pace.

However, credit unions continue to announce acquisitions of their bank counterparts, and the size of targets acquired or set to be acquired is the highest yearly total yet.

Total assets of banks sold to credit unions this year stand at $4.6 billion across the eleven bank targets, breaking the previous record of $3.9 billion across 13 targets in 2021. The average total asset size for announced bank deals year-to-date is over $415 million, compared to the prior record high in 2021 of almost

Source: S&P Global Market Intelligence. Stock performance through Nov. 21, 2022.
**Community Bank Index created by FHLBank Topeka and consists of 74 select publicly traded community banking institutions (assets < $10 billion).*

$350 million. While credit union deal M&A has accelerated in recent years, only 9% of deals involving banks have involved a credit union acquirer through mid-August according to data from S&P Global Market Intelligence.

While a rising rate environment tends to benefit net interest margins, it also has a negative impact on the value of the securities portfolio — thus driving down tangible book value due to the hit to accumulated other comprehensive income. This creates a dilemma for buyers — determining a seller's true tangible book value.

M&A accounting requires the acquiring institutions balance sheet be marked-to-market at the close of the transaction. Credit exposure has started to creep into conversations as the prospect for an eventual recession grows. However, industry analysts have noted M&A is still viewed as an attractive tool and opportunity for strategic growth.

Banking Themes

Liquidity positions retreated across the District for the sixth straight quarter, falling to prior cycle levels as loan demand surged and the pace of share/deposit growth was limited. Margins benefited from the ongoing rapid rise in rates and have bounced back after record lows.

Asset quality remains resilient while net worth positions remain solid and well-capitalized but are below their ten-year average. Capital positions are feeling the pressure from growing unrealized loss positions present in security portfolios.

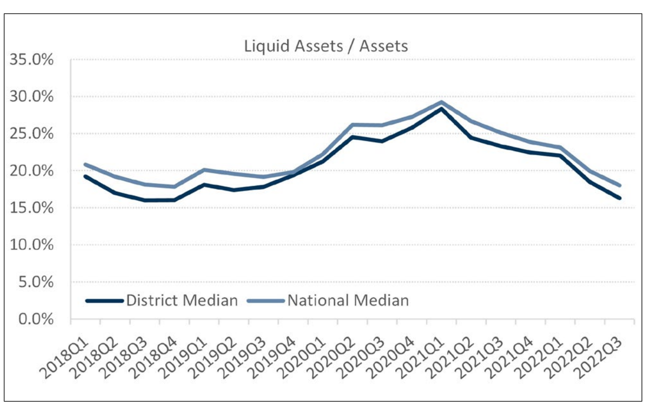
Robust loan growth continued through the third quarter with aggregate loans growing $6.8 billion over the past six months, representing the largest increase in more than two decades. Loan balances were up across all major loan types during quarters two and three. District aggregate loan growth exceeded share/deposit growth for four of the past six quarters.

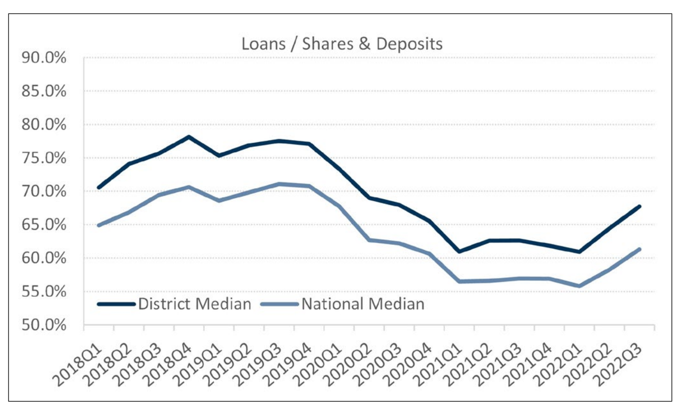
The primary drivers of loan growth were used vehicle lending and residential real estate lending. The mortgage market has shifted from a refi market to a purchase market as loan rates have pushed higher, following the rapid rise in interest rates.

Commercial lending has also posted strong quarterly loan growth and was mostly concentrated in non-owner occupied and multifamily loans. New vehicle lending recorded its strongest two consecutive quarters of growth in more than a decade and its third consecutive quarter of growth after a two-year slide in outstanding balances.

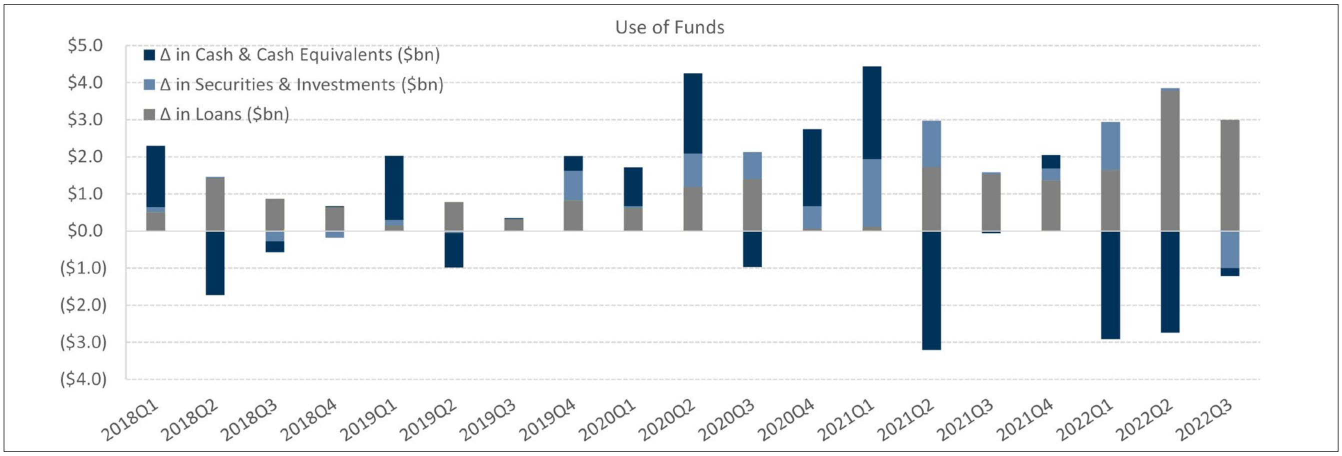
Credit unions shifted from deploying excess cash to selling securities to fund continued loan growth during the third quarter. Cash positions have quickly fallen to pre-pandemic levels after multiple consecutive quarters of accelerated cash outflows.

Prior to the decline of securities and investments during the third quarter, aggregate investment portfolio balances peaked June 30, 2022, totaling $15.9 billion and representing a whopping 80% increase across the District since the onset of the pandemic as banks looked to put excess liquidity to work while loan growth was challenged.





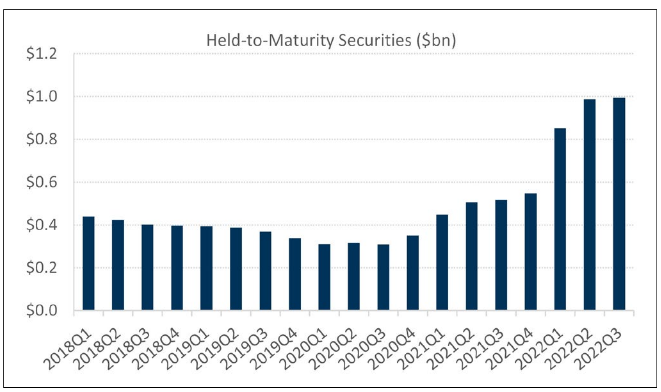
Source: S&P Global Market Intelligence.

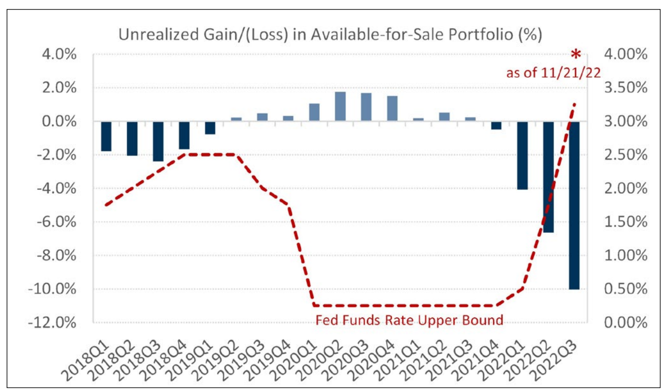


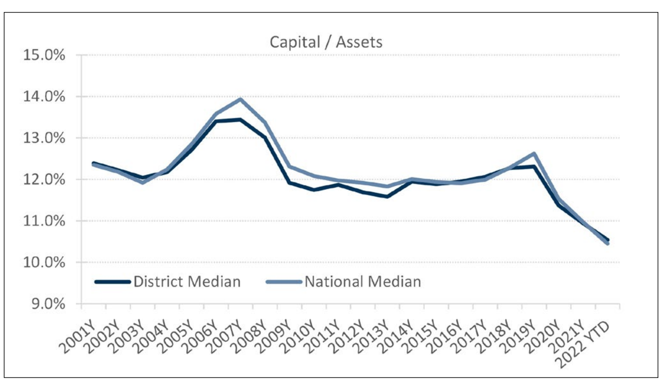
Held-to-maturity (HTM) portfolios expanded while available-for-sale portfolios contracted for the second straight quarter. Institutions are looking to avoid the negative impact of current rate volatility with movement to classify investments as HTM. The unrealized loss positions in bond portfolios continued to balloon through the third quarter, fueled by the swift escalation in interest rates. As a result, capital positions have been negatively impacted with the hit to other comprehensive income.

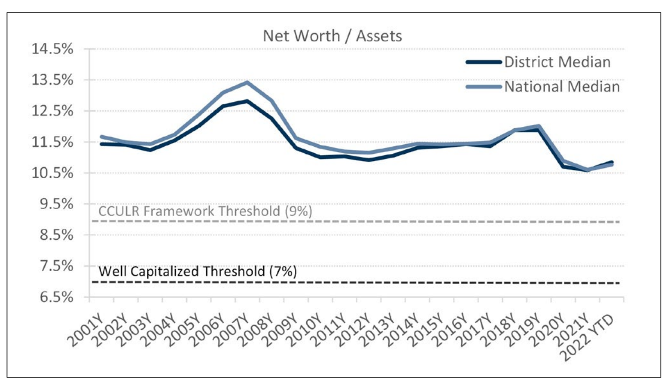
Nevertheless, net worth and risk-based capital positions remain intact and well-capitalized through Sept. 30.

Share/deposit outflows were a common theme across all sectors during the second quarter, but during quarter three, share/deposit flow was mixed. Larger credit unions experienced some share/deposit growth while smaller credit unions saw a second quarter of declining balances.









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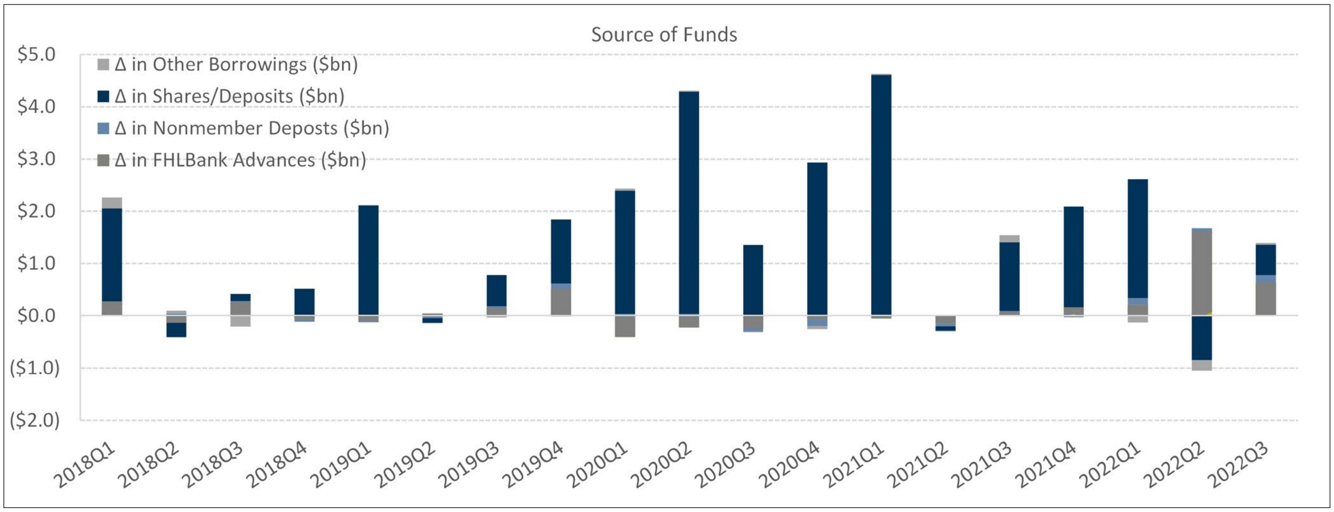


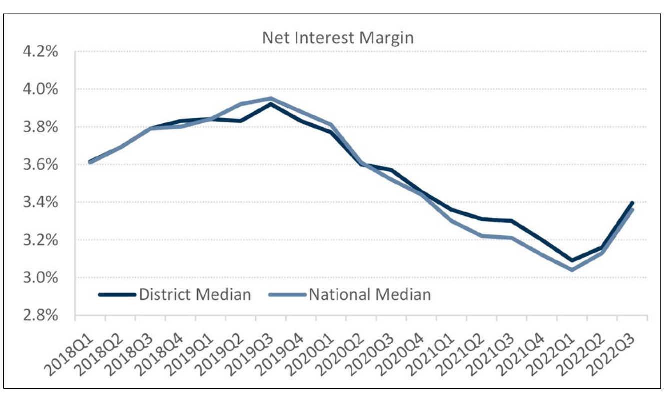
On an aggregate basis, share/deposit balances were up slightly, growing more than 4% quarter-over-quarter. Share drafts and share certificates saw the greatest growth in balances. Some share/deposit intermediation resulted from more attractive yields in money market mutual funds and other investment alternatives and will continue to compete with institutions looking to retain and grow share/deposit balances.

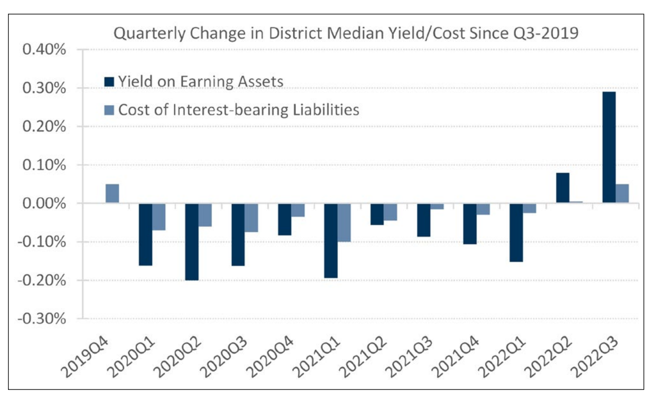
Loan-to-share/deposit ratios jumped again during the most recent quarter, moving from the cycle low reached during the first quarter. If strong loan growth persists and share/deposit growth remains tempered, loan-to-share/deposit ratios are expected to push higher. The use of non-core funding sources to supplement asset growth and fill the funding gap notably increased during the second and third quarters. The substantial growth in wholesale funding utilization was largely attributed to FHLBank advances — the fifth consecutive quarter of growing FHLBank advance use.

Nonmember deposit balances also saw a small uptick in quarter three. Looking forward, the need for liquidity from alternative sources is likely heightened due to the current loss position seen in most security and investment portfolios.

Net interest margins reached a welcome and powerful inflection point during the second quarter and continued through the third quarter, erasing the deterioration seen over the past few quarters. Continuous rate hikes have been favorable for the asset side of the balance sheet as new loans are booked at higher rates and existing loans blow through loan floors.

The bond market provides an opportunity to further support margin expansion as current yields





Source: S&P Global Market Intelligence.

are at decade highs. Net interest income will benefit as liquidity is deployed and cost of funds continues to lag the pace of rate hikes.

Share/deposit betas (what percentage in rates financial institutions pass on to customers) have been slow to follow the increase in benchmark rates but pricing pressure is expected to intensify as customer expectations shift and competition increases.

Profitability and efficiency ratios improved during the third quarter. The increase in noninterest expense and decline in noninterest income were offset by the momentous growth in net interest income quarter-over-quarter.

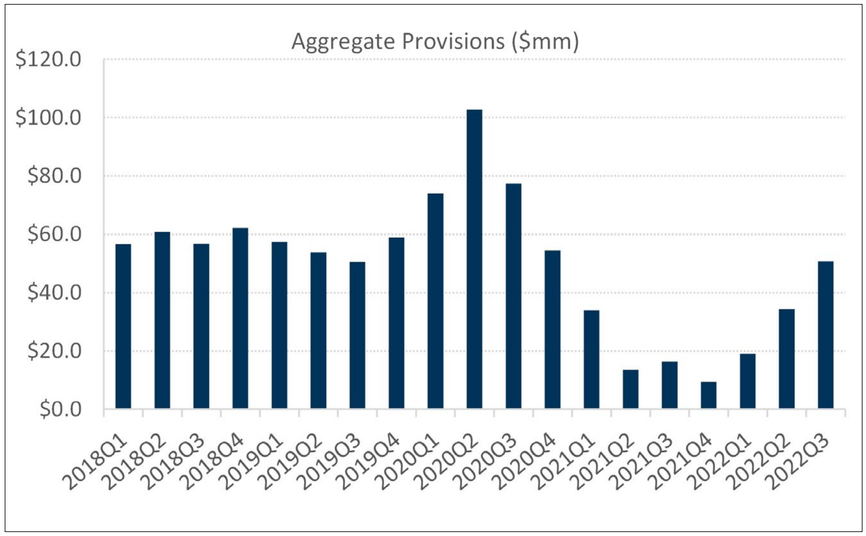
Fee generated income sources are expected to face headwinds as mortgage activity slows and overdraft/nonsufficient fund fees are reduced or lowered due to competitive pressures. Aggregate provisions picked up slightly, reaching a seven-quarter high. Fewer institutions reported no provision in the most recent quarter as some institutions reversed course and returned to reserve building mode.

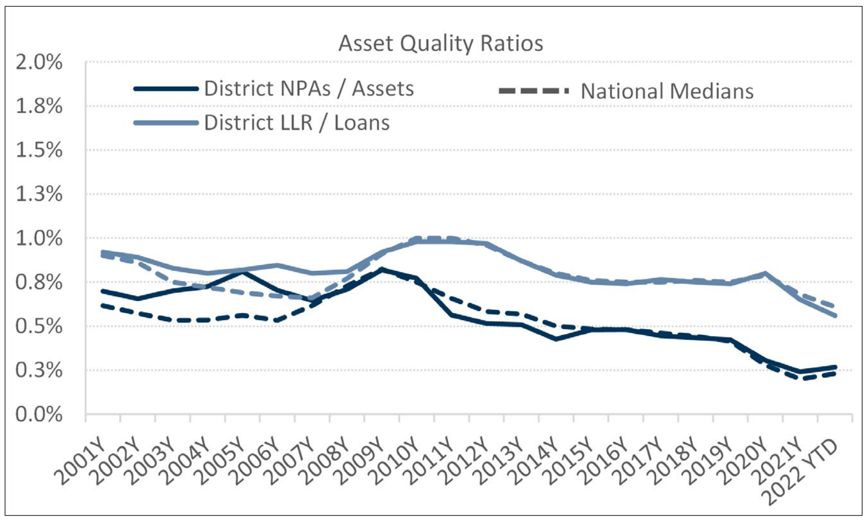
Asset quality positions remain healthy, and current loan loss reserves remain sufficient. It is widely believed that the unprecedented fiscal support received by households during the pandemic prevented a stressed credit event. Although there have been few tangible signs of weakening credit positions, an uncertain and unpredictable economic outlook is expected to spark a return to higher provision levels and reserve build.

Looking Ahead

A significant downturn in economic activity or period of contraction is believed to be on the horizon as the Fed combats stubbornly high inflation. Can the current pace of loan growth continue at depository institutions or will growing economic uncertainty reduce the appetite for consumers to borrow?

Persistent inflation and a return to low personal savings rates not seen since the Great Recession could lead to additional share/deposit outflows and increase in credit utilization as





Source: S&P Global Market Intelligence.

consumers and business alike spend to cover rising living expenses and reevaluate spending habits.

Credit losses were (artificially?) avoided during the pandemic. Has that increased the risk (unintentionally) for the next recession or credit event? Balance sheet management will remain a challenge as we navigate unchartered waters and operate in an extraordinary economic environment.

A Deeper Dive

Deposits, Funding & Pricing Trends

The unprecedented shift in share/deposit mix through the decade long cycle of historically low rates — specifically moving from term accounts to non-maturity accounts (NMA) — has continued through the pandemic era. NMA funding — share drafts, regular shares, money market accounts — represents a significantly higher portion of the share/deposit portfolio than it historically did in the decades leading up to the Great Recession.

The movement of shares/deposits during the prior rising rate environment did not follow past cycles, and migration back into term accounts did not materialize.

As rates move higher, we expect, as in the past, the "migration" or outflow of NMA into more rate sensitive accounts, potentially outside of the banking industry. Or, the NMA accounts themselves may become increasingly more rate sensitive — driving further share/deposit competition in an attempt to both retain at-risk shares/deposits and attract new funds.

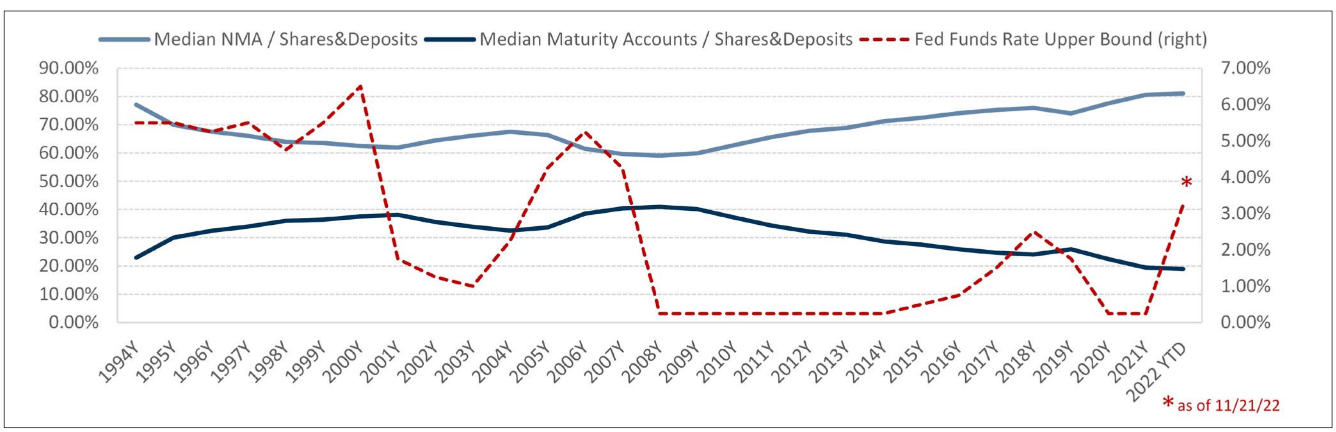
Consumers may choose to stay short with their share/deposit investments in a rising rate environment and may be more willing to move cash reserves in pursuit of higher rates and returns.

Consumers are expected to have less loyalty for term accounts to an institution than in the past. Early withdraw penalties are not viewed as a deterrent to pulling money out prior to maturity.

We are seeing a generational transition in consumer behavior moving away from term accounts even in a rising rate environment. Younger generations are anticipated to have differing savings preferences and desires compared to older generations. However, older generations may hold on to excess liquidity.

The likelihood of rate sensitive funding moving out of the traditional banking system has quickened as the adoption of digital banking accelerated during pandemic lockdowns and competition has intensified with non-traditional market participants.

We anticipate credit union assets will continue to grow, and therefore institutions may have to continue to utilize non-core sources to fill the funding gap. Historically, share/deposit prices have lagged federal fund rate increases while cost of borrowings are market rate sensitive and will move more quickly as rates rise (or fall). However, wholesale funding can be much cheaper than retail money at the margin.



Source: S&P Global Market Intelligence.

Analyzing the potential impact of share/deposit migration is essential to managing overall cost of funds as we move through the ongoing series of rate hikes expected into 2023.

Evaluating the marginal cost of attracting new or retaining existing core shares/deposits versus utilizing a wholesale funding strategy will be critical. This will demonstrate the impact of pricing up existing funds or bringing in new money in both an increasing rate environment and competitive share/deposit market.

Does your funding strategy take into account the above considerations? When considering the future funding mix, are retail share certificates a dying product? Institutions must be diligent in managing the rate structure of NMA accounts and understand the impact to funding costs as rates rise.

Have you considered how wholesale funding may fit into your overall liability funding plan and strategy going forward? FHLBank advances may be an attractive alternative to share/deposit funding, as well as provide a hedge against rising rates.

An additional consideration in your on-balance sheet funding strategy is the impact of rising rates on the valuation of your securities portfolio. A further increase in rates will continue to have a negative effect on the value of your securities. How will this change your view for a liquidity perspective? Will you be willing to realize losses to provide funding liquidity for other asset growth? You may need to consider other alternative sources of liquidity and funding for growth in assets as we move through upcoming rate changes.

Visit FHLBank Topeka's **Marginal Cost of Funds landing page** on our public website to have a custom MCOF analysis completed for your institutions and learn more about deposit pricing strategies.

	Deposit Product Betas		
Product	**1 Month**	**3 Month**	**YTD**
Money Market			
Money Market - $10k			
District Top Quartile	**13.3%**	**11.1%**	**13.3%**
District Average	13.6%	9.1%	10.1%
National Average	6.7%	4.9%	5.7%
Digital Only Banks	31.7%	17.8%	23.2%
Money Market - $25k			
District Top Quartile	**20.0%**	**13.3%**	**15.0%**
District Average	14.8%	9.9%	11.2%
National Average	8.0%	6.2%	6.7%
Digital Only Banks	31.7%	17.8%	23.2%
Money Market - Tier Average > $50k			
District Top Quartile	**33.3%**	**19.9%**	**22.3%**
District Average	18.8%	13.1%	14.7%
National Average	11.6%	8.4%	8.9%
Digital Only Banks	31.7%	17.8%	23.2%
Time Deposit			
1 Yr CD - $10k			
District Top Quartile	**74.7%**	**41.8%**	**53.0%**
District Average	33.5%	27.1%	32.8%
National Average	26.7%	19.1%	22.0%
Digital Only Banks	58.9%	45.9%	68.1%
2 Yr CD - $10k			
District Top Quartile	**53.3%**	**44.4%**	**55.0%**
District Average	33.9%	27.8%	35.6%
National Average	25.3%	19.1%	23.3%
Digital Only Banks	-13.3%	20.7%	52.2%

**Note: District betas include all financial institution branches located in the Tenth District.*

Source: S&P Global Market Intelligence; rate data as of Nov. 18, 2022.