CAPITAL MARKETS *monthly*

VOL 20 | OCTOBER 2024

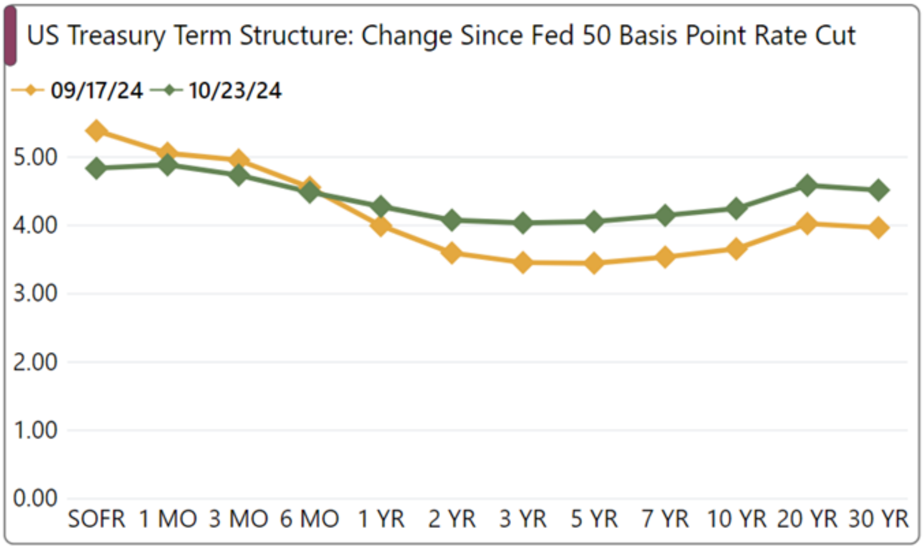
GENERAL MARKET OVERVIEW

The bond market sent a strong message to monetary and fiscal policymakers by pushing rates up at both the long end and in the belly of the curve. The 2-year and 10-year Treasury yields are up 48 and 59 basis points, respectively, since the Federal Reserve cut the fed funds target rate 50 basis points on September 18. Term premiums keep rising even as overall financial conditions ease.

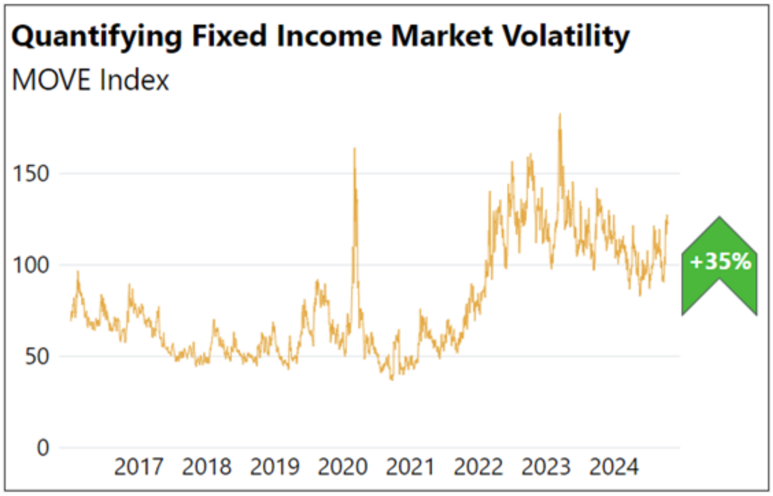
As the Fed walks back its dovishness, rate movements such as these confound both market participants and officials alike. Opinions run the gamut from accusations of a Fed policy error to more optimistic views that couple a proactive Fed with better-than-expected economic data (e.g., jobs created).

Without a proverbial crystal ball, we advise contingency planning for multiple outcomes. Below in the Loan Participation Market section, we provide a deep dive into an opportunity for the reader to quantify contingent liquidity sources and proactively address these uncertain outcomes. *Continued on page 2*

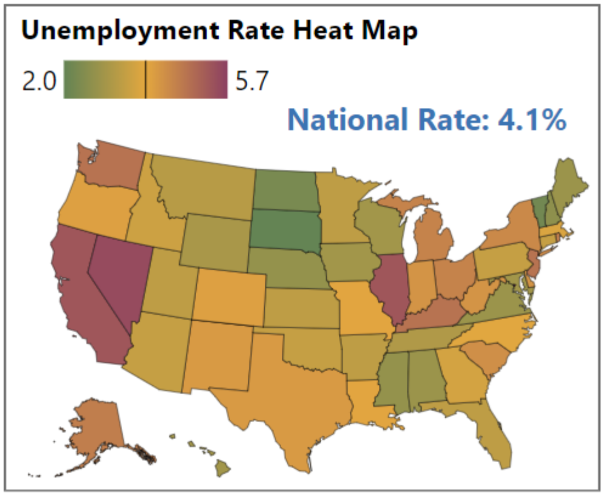
	9/17/2024	10/23/2024	Change
Policy Effective Rate	5.33%	4.83%	▼ -0.50%
2-Year Treasury	3.59%	4.07%	▲ 0.48%
10-Year Treasury	3.65%	4.24%	▲ 0.59%



But first, let's look at another way of quantifying uncertainty in the bond market — with the Merrill Option Volatility Estimate (MOVE) Index created by Harley Bassman in 1994. The index is a market-implied measure of bond volatility by using options prices on U.S. Treasury bonds that reflect the expectations of market participants on future volatility. We can use the MOVE Index to gain insight into the expectations of bond market participants. Higher values signal increased Treasury market volatility and potentially heightened risk. The index shot up over the last month by 35%, though it is well below the extreme spikes from the COVID-19 shock and the high-profile bank failures in March 2023.



While cheaper overnight rates are a relief to banks and large corporations, medium- and long-term rates are where everyday Americans borrow. Stubbornly high rates will continue to weigh on household balance sheets. The consumer is struggling in pockets across America. While the national unemployment rate is at just over 4%, there are pockets of weakness in large population centers like California, Illinois and New York.



The good news is that credit unions are well-positioned to absorb delinquent loans through an adequate allowance for loan loss provision. Allowance provisions materially increased in 2023 with the implementation of the Current Expected Credit Loss (CECL) methodology. The allowance dollar amount increased by 80% between Q4 2022 and Q2 2024 to $20.7 billion. The allowance increases are not as pronounced when considering the rise in loans and leases. As a percentage of total loans and leases, the industry allowance percentage of loans increased by 65% to 1.27%. Looking further behind the numbers, the median credit union allowance only increased by 28% to 0.78% of total loans and leases.

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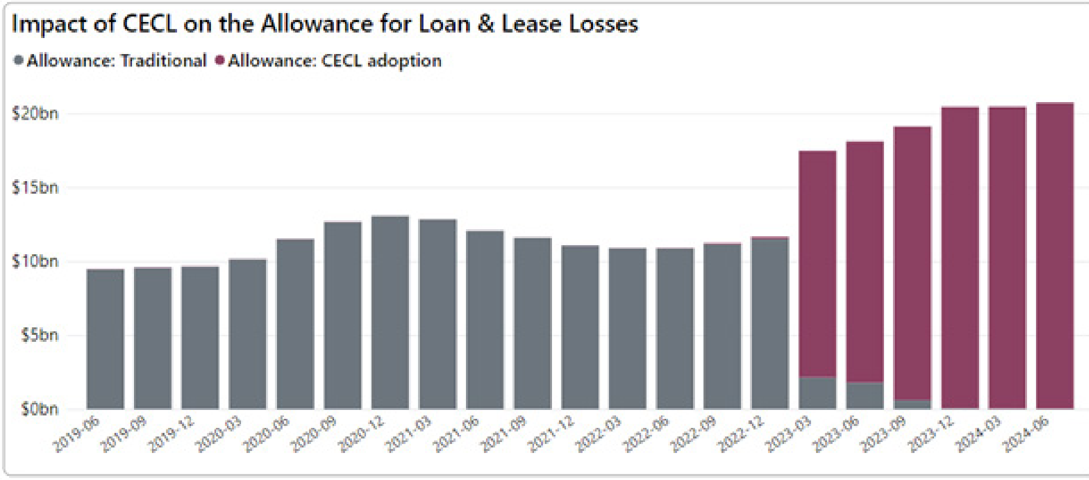
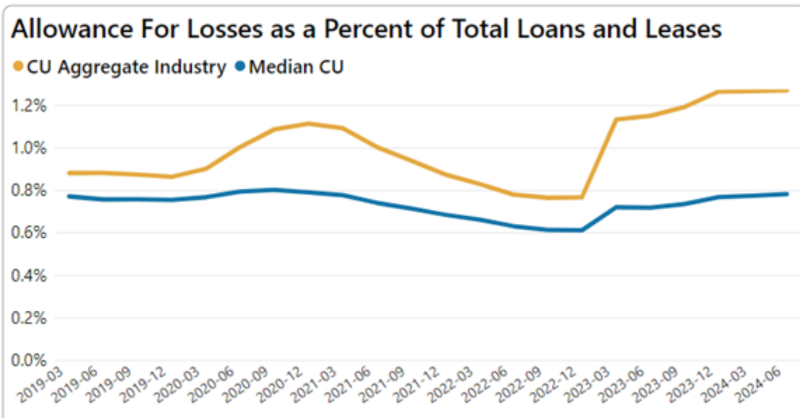
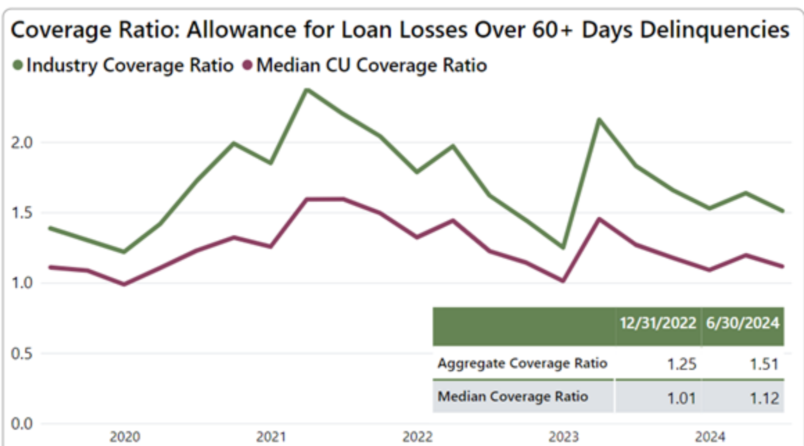
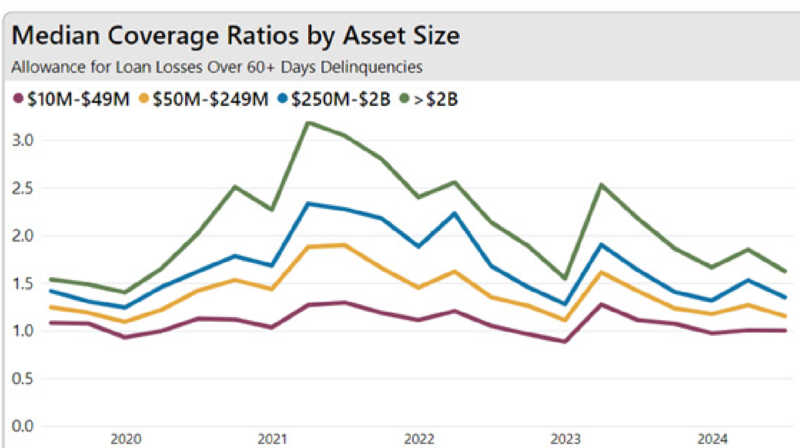


Are these loss reserves enough? Let us consider the allowance coverage of non-performing loans. Below is a chart of the coverage ratio for the overall industry aggregate as well as the median credit union coverage ratio. The industry allowance provision as a whole is at 1.5 times coverage to 60+ days delinquent loans. The median credit union ratio is lower at 1.12. In general, the larger the credit union, the more loss coverage they hold. The initial conservative funding of CECL, particularly with larger credit unions, was prudent given the heightened economic uncertainty. Barring an all-out crisis, credit unions are positioned to weather increases in non-performing loans.





	12/31/2022	6/30/2024
Aggregate Coverage Ratio	1.25	1.51
Median Coverage Ratio	1.01	1.12



Earlier this year, the NCUA's Advisory on Liquidity Risk Management stressed that a credit union's loan portfolio needs to be a liquidity source. Specifically, the NCUA highlighted the following key area of focus for managing liquidity (emphasis ours): "Controlling asset composition such as lending quality and volume, ***including pricing***, limits for lending personnel and loan types, and ***originating loans eligible for future sale***." Balance sheets with high levels of credit risk or long duration with an inadequate amount of short-term liquid assets will require management to implement a more robust risk management framework. To read more, **visit the NCUA's website**.

Loans, therefore, should be priced accordingly to sell. This requires credit unions not only to have a deep understanding of the loan sale market but to also have a tool to analyze the feasibility of potentially selling their loans as a liquidity option. Credit unions will need to adjust their loan prices regularly and price their loan portfolios on an ongoing basis as a potential liquidity source. Alloya Capital Markets has the solution, and it's an analytical tool we provide to credit unions that successfully onboard to Alloya's Loan Participation Platform. This loan liquidity pricing tool provides our members with insights into their loan portfolio characteristics and liquidity potential. So how do you get there? Easy.

1. If you are not yet a member of Alloya, become an Associate Member.
2. Gain access to Premier View, Alloya's one-stop transaction system.
3. Complete the seller onboarding process (detail on page 7).
4. Send your loan tape.

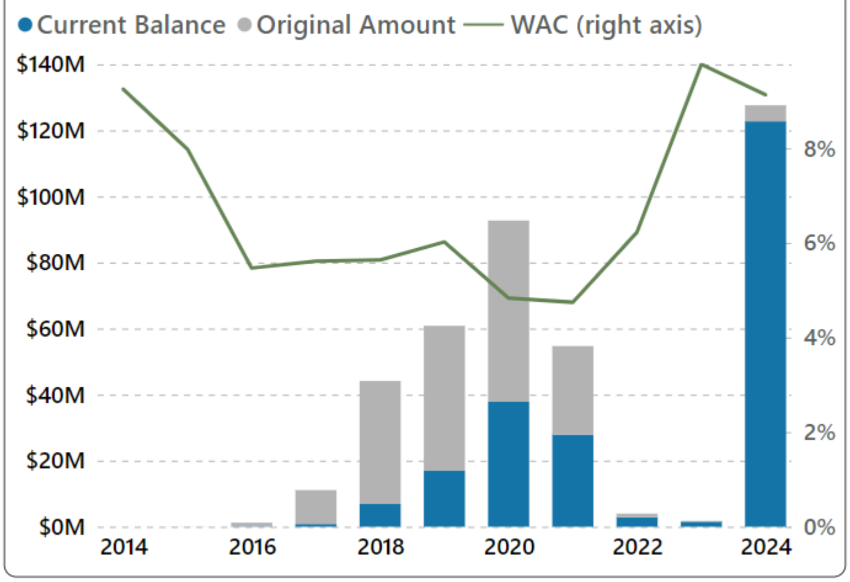
If interested, please contact Marina Funk (**marina.funk@alloyacorp.org**) of Alloya's Capital Markets team to get started and guide you through the onboarding process. We suggest you review your overall loan portfolio on an annual basis, and we will review your loan portfolio with you. *Continued on page 5*

Below is a case study example for those proactive readers curious about their loan portfolio's liquidity potential. Alloya's Capital Markets group analyzes the loan portfolio using our proprietary pool carve and indicative pricing engine and summarizes findings in a loan liquidity indicative pricing report. The report includes an analysis of all the loans submitted. The portfolio analysis includes various stratifications based on key risk factors and credit characteristics (e.g., vintage, credit score, debt-to-income, etc.). *Continued on page 6*

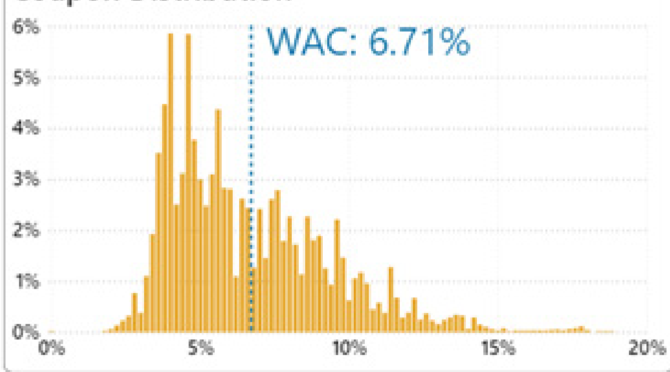
Submitted Portfolio Summary

Current Loan Balance	$217,677,859
Loan Count	13,285
Coupon	7.42%
Coupon Minimum	0.99%
Remaining Term (months)	54
Weighted Avg. FICO	720
FICO Minimum	0
Weighted Avg. LTV	1.17
LTV Maximum	1.50
Weighted Avg. DTI	0.30
DTI Maximum	9.55
Weighted Avg. Life (WAL)	1.89
Indirect Cost %	0.44%
Max Loan Size	$121,448
New Vehicle %	38%

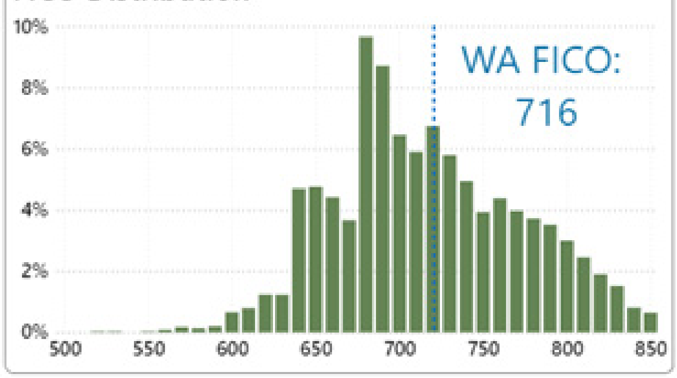
Loan Balances by Origination Year



Coupon Distribution



FICO Distribution



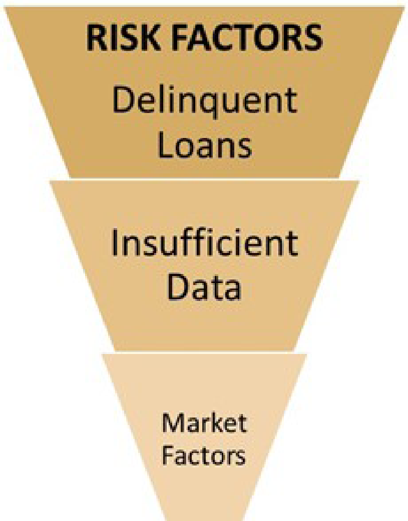
Loan Portfolio Summary - New vs Used

Collateral	% of Balance	Current Loan Balance	Loan Count	WAC	Coupon Min	Remaining Term	FICO	FICO Min	LTV	LTV Max	DTI	DTI Max	WAL	Indirect Cost	Max Loan Size
New	38%	$83,785,751	4,461	5.76%	0.99%	51	738	0	1.10	1.49	0.31	7.41	1.76	-0.83%	$121,448
Used	62%	$133,892,108	8,824	8.46%	1.99%	56	708	0	1.21	1.50	0.30	9.55	1.96	1.23%	$105,217
Total	**100%**	**$217,677,859**	**13,285**	**7.42%**	**0.99%**	**54**	**720**	**0**	**1.17**	**1.50**	**0.30**	**9.55**	**1.89**	**0.44%**	**$121,448**

Loan Portfolio Summary - Credit Score

FICO Range	% of Balance	Current Loan Balance	Loan Count	WAC	Coupon Min	Remaining Term	FICO	FICO Min	LTV	LTV Max	DTI	DTI Max	WAL	Indirect Cost	Max Loan Size
0-649	11%	$23,924,603	1,427	11.67%	2.74%	59	601	0	1.16	1.47	0.29	7.78	2.08	1.24%	$71,110
650-699	28%	$60,358,761	3,523	8.62%	2.00%	57	677	650	1.23	1.50	0.30	4.56	1.96	1.20%	$84,267
700-749	28%	$61,471,627	3,780	6.93%	0.99%	54	723	700	1.23	1.50	0.30	1.11	1.87	0.62%	$86,546
750-799	21%	$45,316,635	2,805	5.53%	0.99%	52	775	750	1.11	1.50	0.31	7.76	1.81	-0.73%	$106,930
800+	12%	$26,606,234	1,750	5.23%	0.99%	49	821	800	1.00	1.49	0.29	9.55	1.72	-0.43%	$121,448
Total	**100%**	**$217,677,859**	**13,285**	**7.42%**	**0.99%**	**54**	**720**	**0**	**1.17**	**1.50**	**0.30**	**9.55**	**1.89**	**0.44%**	**$121,448**

We then perform a loan eligibility analysis. Not all the submitted loans are eligible for a long participation sale in the secondary market. We explain the risk factors determining loan sale eligibility. Some factors are “hard filters” that will likely not change even in a different market environment. These factors include ineligible loan status like delinquent or non-accrual loans, loans with missing, insufficient, or erroneous data, ineligible collateral, or previously sold, pledged, or otherwise encumbered collateral. “Soft filters,” like minimum FICO score or maximum loan-to-value (LTV), are risk factors that could vary slightly given the current market environment and/or supply and demand dynamics. Below is a summary of these risk factors.



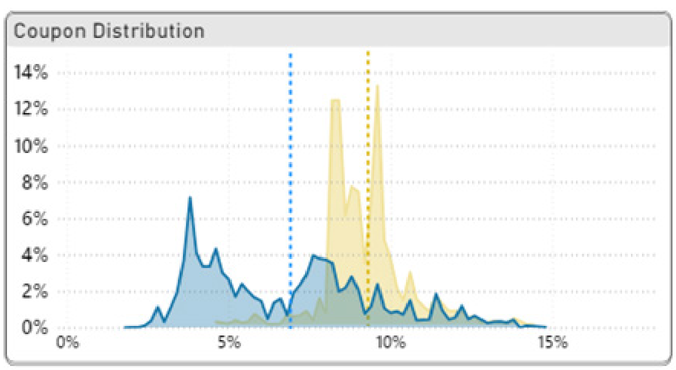
Risk Category	% of Portfolio	$ Balance	Loan Count
Delinquent and/or non-accrual	10%	$74,502,044	2,483
Low FICO (< 640)	10%	$74,502,044	2,483
High LTV (> 135%)	22%	$163,904,497	5,463
High DTI (> 60%)	5%	$37,251,022	1,242
Low $ balance (< $2k)	1%	$7,450,204	248
Low Remaining Term (< 6 months)	2%	$14,900,409	497
Long Term (> 85 months)	5%	$37,251,022	1,242
Insufficient Data	5%	$37,251,022	1,242
Pledged or Previously Sold	20%	$149,004,088	4,967
Total	60%	$447,012,265	14,900

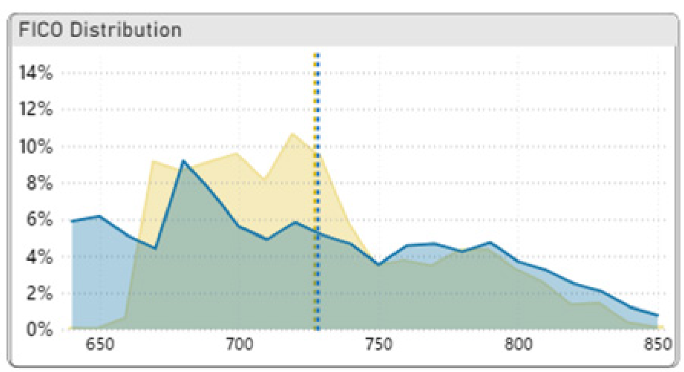
* Will not sum to total due to loans in more than one risk category.

After we determine the pool of eligible loans, we compare this remaining loan portfolio to the executed deals trading on the Alloya Loan Participation Platform to determine the target characteristics of the loan pool carve. This allows us to provide liquidity scenarios and indicative pricing with the highest likelihood of success. Many factors, both micro and macroeconomic, impact the pool characteristics of a successful loan participation trade. Both the overall nominal interest rate level and trend, combined with the slope of the yield curve, impact the supply and demand of buyers and sellers in the loan participation market at any given time. Within the loan portfolio, most credit unions employ risk-based loan pricing, which results in an economically rational trade-off between credit risk and expected return. *Continued on page 7*

Summary of Eligible Loans

Current Loan Balance	Loan Count	WAC	Coupon Min	Remaining Term	FICO	FICO Min	LTV	LTV Max	DTI	DTI Max	WAL	Indirect Cost	Max Loan Size
$23,098,831	238	8.34%	7.40%	214	772	660	0.64	0.80	0.33	0.45	4.72	1.75%	$394,192





We then analyze the eligible loan portfolio using our proprietary pool carve and indicative pricing engine and summarize our findings, as illustrated in the table below. The scenario analysis table below is an example of various loan pool carves and indicative pricing based on selected liquidity strategies. Scenarios range from a gain-on-sale target (e.g., 50 basis points above indirect acquisition cost) to the maximum potential proceeds determined by including all eligible loans.

LIQUIDITY STRATEGIES

	50 bps Gain on Sale	Liquid @ Cost	Liquid @ PAR	Liquid @ 99	Probable Max Proceeds	Eligible Max Proceeds
Indicative Price	102.00	101.44	100.00	99.00	98.00	97.00
Proceeds From Sale	$13,096,768	$27,528,569	$59,400,000	$70,389,000	$79,380,000	$163,722,376
Amount Sold (90%)	$12,839,969	$27,137,785	$59,400,000	$71,100,000	$81,000,000	$168,785,955
Pool Size	$14,266,632	$30,153,094	$66,000,000	$79,000,000	$90,000,000	$187,539,950
Weighted Avg. Coupon	9.35%	9.07%	8.60%	8.48%	8.28%	6.90%
Net Yield to Investor*	7.80%	7.82%	7.75%	7.74%	7.77%	7.75%
Weighted Avg. FICO	721	720	732	730	726	728
Weighted Avg. LTV	1.18	1.16	1.09	1.09	1.1	1.35
Weighted Avg. DTI	0.3	0.29	0.29	0.29	0.29	0.3
Weighted Avg. WAL	2.54	2.52	2.43	2.34	2.22	1.86
Indirect Cost	1.49%	1.44%	1.37%	1.29%	1.16%	0.79%

This analysis will assist in bolstering the "L" component of your CAMELS rating, as well as quantify your liquidity options through the sale of loan participations at various indicative prices. You now have another tool in your toolbox for balance sheet management. At the very least, you have a firm, quantified understanding of the liquidity profile of your loans as well as a risk exposure analysis even if you decide not to move forward with a sale. If interested, please contact **marina.funk@alloyacorp.org** to get started. Sellers will need to complete the seller onboarding process to ensure both proper salability and serviceability of the loans. Specifically, we will request documentation for organizational due diligence, as well as documentation to confirm the proper ongoing loan servicing expectations for a loan participation transaction.

ABS MARKET & SECURITIZATION

CREDIT UNION AUTO ABS ISSUANCE

Credit Union	Issued	Deal Size ($ millions)	Total Assets ($ billions)	Loan-to-Share Ratio	Net Worth Ratio
GTE Financial	Nov 2019	$147	$2.8	0.78	8.3
UNIFY Financial	March 2021	$300	$3.6	0.79	8.7
PenFed	Aug 2022	$460	$36.7	1.17	9.0
Oregon Community	Oct 2022	$275	$3.2	1.12	10.5
GTE Financial	May 2023	$203	$2.9	0.93	10.8
Veridian	May 2023	$290	$6.9	1.09	10.7
General Electric	Aug 2023	$300	$4.9	1.19	7.9
Oregon Community	Sept 2023	$258	$3.5	1.23	9.4
Ent	Sept 2023	$243	$9.9	1.11	9.9
Valley Strong	Oct 2023	$282	$4.0	0.97	8.5
Space Coast	Dec 2023	$422	$9.0	1.13	10.0
GreenState	March 2024	$400	$11.4	1.26	8.7
Valley Strong	March 2024	$296	$4.0	0.97	8.5
First Community	May 2024	$251	$2.6	1.00	8.0
Space Coast	July 2024	$669	$9.2	1.05	9.8
PenFed	Aug 2024	$447	$33.5	0.94	9.6
Average		**$328**	**9.3**	**1.05**	**9.3**

* Credit union data at time of issuance

No new credit union asset-backed securities (ABS) were issued this month. Last month, Pentagon Federal Credit Union (PenFed) issued $447 million with their second ABS transaction. PenFed is now just behind Space Coast Credit Union in total ABS issuance. Space Coast has issued over $1 billion split between two deals, while PenFed has issued a total of $907 million.

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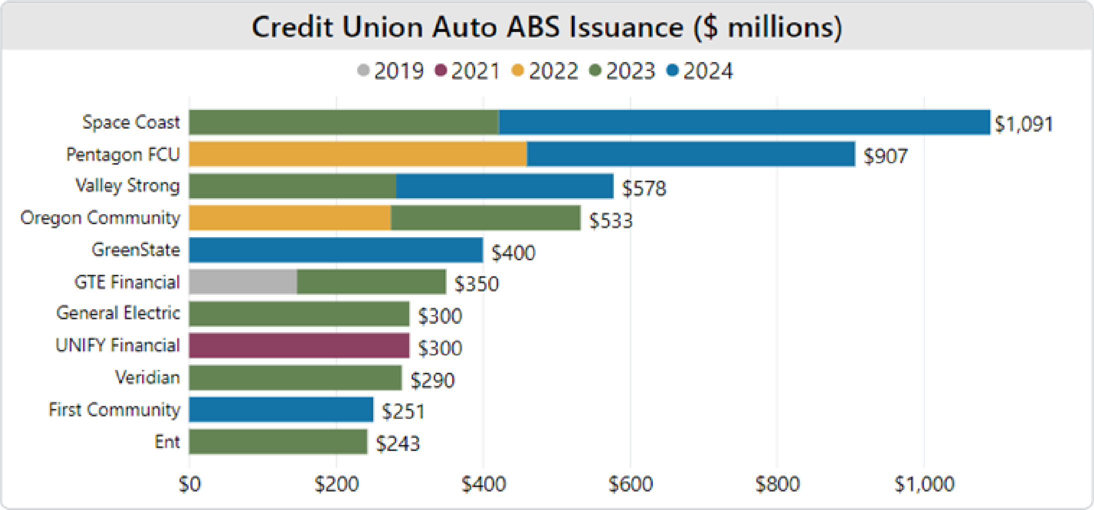

FINAL THOUGHTS

Remember the member. We remain cautiously optimistic, and as a fellow credit union, keep our orientation focused on members. Economists have called for recession for several years now. In October 2022, a Bloomberg headline read, "Forecast for U.S. Recession Within Year Hits 100%." Well, that was two years ago! While it is rational to be cautious, let us not drag the left tail risk into the center of the distribution. Fear and sensationalized headlines get clicks. There is plenty to be optimistic about in the face of rate cuts. Economies are built slowly over time. Dr. Torsten Slok, Chief Economist at Apollo Global Management, highlighted several indicators that point to a positive U.S. economy, namely:

Restaurant bookings: Strong		Bank lending: Growing	
TSA air travel data: Strong		Bankruptcy: Trending lower	
Atlanta Fed GDPNow: 3.4%		Box office weekly grosses: Strong	
Retail sales: Strong		S&P 500 forward profit margins: Near record highs	
Jobless claims: Sideways		Business formation: Rebounding	
Hotel occupancy: Strong		ASA temp worker staffing index: Sideways	

Alloya is here to help you in your mission to support your members' financial needs. Specifically, this letter brought your attention to our loan pricing tool that can be used for your contingency liquidity planning and balance sheet strategy. Expect continued turbulence in the weeks to come as markets anticipate and respond to the November election, the U.S. Treasury's quarterly refunding announcement and the Federal Open Market Committee's (FOMC) November rate decision. Alloya is here to accompany you in your strategic vision regardless of the road taken.

Incepto ne desistam

"May I not shrink from my purpose"