

Global Structured Finance 2024 Outlook

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This report does not constitute a rating action



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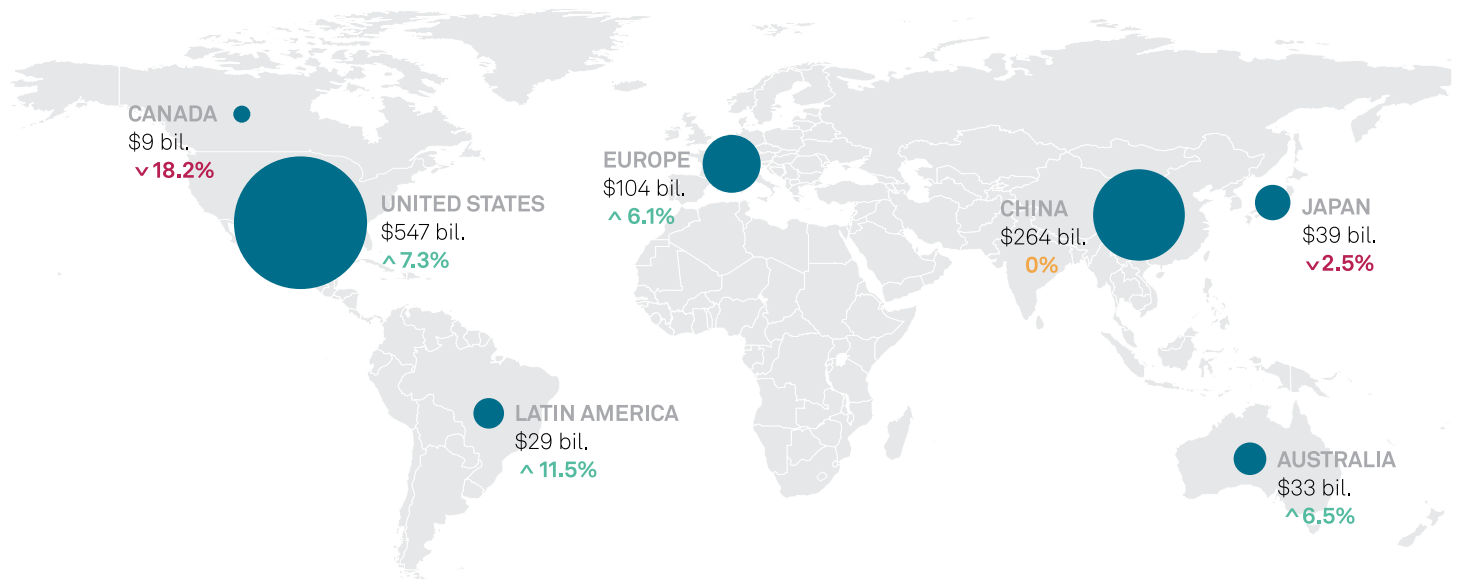
Key Takeaways

- We are forecasting only modest (single-digit) growth in global structured finance issuance volume to roughly \$1 trillion in 2024.
- Interest rates are expected to decrease gradually in 2024. This is always the wild card when forecasting structured finance issuance, especially this year when the spread of the 30-year fixed mortgage rate to the 10-year Treasury note yield has persisted at abnormally high levels.
- Regulations, mainly in the form of Basel IV, have the potential to sway issuance volumes depending on the finalized bank capital rules that are attached to various forms of lending.
- Consumer credit has been generally stable across the board, although some cracks are beginning to show in areas such as U.S. subprime auto and unsecured personal lending.
- Geopolitical uncertainty remains in 2024, even with inflation and unemployment normalizing to more sustainable levels. Our U.S. forecast calls for only modest economic growth. Despite global macroeconomic headwinds, we expect overall performance and ratings across most structured finance asset classes to remain stable in 2024, with potential challenges from CMBS.

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2024 global structured finance issuance forecasts



Source: S&P Global Ratings.

Introduction | Global Structured Finance Outlook

Overview

As the world's economies and structured finance markets move further away from the pandemic, new concerns have arisen, and some old ones remain. This has led to some marked performance differences across asset classes. Overall, despite global macroeconomic headwinds, including elevated inflation, performance and ratings across most structured finance asset classes were stable in 2023, buoyed by low unemployment rates. We expect this to continue into 2024.

Credit Themes

Credit themes for the asset classes in 2023:

- Commercial mortgage-backed securities (CMBS) were a notable exception to the stable performance enjoyed by the overall structured finance market, as a slower-than-expected return to the office has brought about material cash flow disruption and value declines, especially in the U.S and Europe.
- Strong housing markets have supported credit in the U.S. and Australian residential mortgage-backed securities (RMBS) sectors. China, however, continues to grapple with a sluggish property market, while many European housing markets are overvalued.
- Consumer credit has been generally stable across the board, although some cracks are beginning to show in areas such as U.S. subprime auto and unsecured personal lending.
- Leveraged lending and collateralized loan obligations (CLOs) are increasingly in focus for numerous reasons, including their ties to the burgeoning private credit space, and their elevated exposures to lower-rated obligors. That said, credit performance has remained mostly stable to date.

In 2024, we expect many of these credit themes to linger, especially during the first half of the year. The path of interest rates will likely play a leading role in the absolute level of distress in the CMBS space. This is true for the office sector as well as for assets that were underwritten to what may have been peak values and cash flows--namely, certain segments of the multifamily sector. Elevated rates will also continue to stress weaker leveraged corporate borrowers and could exacerbate credit issues in the CLO sector. On the consumer side, any unexpected increase in unemployment rates beyond our generally benign base cases would be a cause for concern in auto asset-backed securities (ABS) and other consumer-oriented products, including RMBS.

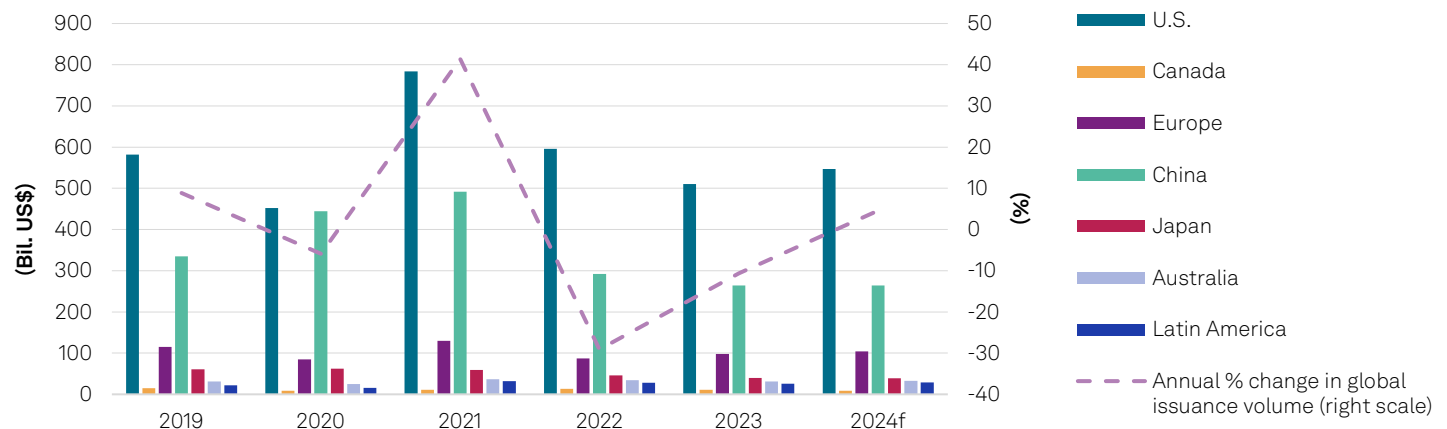
Issuance

Economic uncertainty and interest rate volatility kept issuance in most regions down year over year in 2023, with the U.S. and China down about 14% and 10%, respectively. Globally, issuance was approximately \$980 billion, which was down 11% relative to 2022.

Approximate global structured finance new issue volumes(i)

Bil. US\$(ii)	2018	2019	2020	2021	2022	2023	2024f
U.S.	540	582	452	784	596	510	547
Canada	18	15	9	11	13	11	9
Europe	123	115	85	130	87	98	104
China	292	335	444	492	292	264	264
Japan	55	61	62	59	46	40	39
Australia	23	31	25	37	34	31	33
Latin America	15	22	16	32	28	26	29
Global total	1,066	1,161	1,093	1,545	1,096	980	1,025

(i)We reserve the right to periodically revise these estimates retroactively as new information becomes available. Covered bonds, agency RMBS/CMBS, ABCP, TOBs, CRE CLOs, and CLO refinancings and resets are excluded from new issue totals. The issuance figures shown are rounded. (ii)With the exception of Australia and Latin America, exchange rates as of each year-end. 2024f exchange rates are as of 2023 year end. f--Forecast. RMBS--Residential mortgage-backed securities. CMBS--Commercial mortgage-backed securities. ABCP--Assetbacked commercial paper. TOB--Tender option bond. CRE CLO--Commercial real estate CLO. CLO--Collateralized loan obligation. Sources: S&P Global Ratings, Bloomberg, Green Street.



f--Forecast. Sources: S&P Global Ratings, Bloomberg, Green Street.

Even with inflation and unemployment normalizing to more sustainable levels, geopolitical uncertainty remains. Our U.S. economic forecast calls for only modest growth, certainly nothing close to the nearly 12% growth in real GDP enjoyed in the second quarter of 2021. Interest rates are expected to decline gradually in 2024, and this is always the wild card when forecasting structured finance issuance, especially this year when the spread of the 30-year fixed mortgage rate to the 10-year Treasury note yield has persisted at abnormally high levels. Another unknown concerns regulation, mainly in the form of Basel IV, which has the potential to sway issuance volumes depending on the finalized bank capital rules that are attached to various forms of lending.

U.S. | Auto Loan ABS

Issuance

After a robust 35% growth in issuance to \$120 billion in 2023, we expect annual auto loan ABS issuance volume to increase only 4% to \$125 billion in 2024. Slower economic growth this year should keep retail auto sales stable at 15.5 million units--the same as last year and up about 12% from 2022. We also expect the average new vehicle transaction price to drop slightly relative to 2023 due to declining used vehicle prices and the product mix changing to lower trim levels and more entry-level vehicles.

While these factors will negatively affect issuance, we believe the growth in bank and credit union issuance that we saw in 2023 will continue this year. Several banks that haven't issued in years are poised to return in the first quarter, and more credit unions are expected to tap the ABS market for the first time this year. Not only are banks keen on securitizing auto loans due to the rising cost of deposits, but the new Basel IV regulations, which will increase capital requirements effective July 2025, are causing banks to examine ABS and synthetic structures to remove some of the risk from their balance sheets.

Credit And Collateral Performance

We believe the divergence in credit performance between the prime and subprime segments--especially with respect to the 2022 vintage--will continue this year. However, we also believe that certain factors that have negatively affected subprime consumers have started to migrate into the prime space. The subprime segment was the first to experience deterioration in its loss metrics with cumulative net losses (CNLs) on its 2022 vintage rising above those of its 2016-2019 vintages (see chart below). Meanwhile, CNLs on the prime 2022 vintage have risen relative to the levels of the 2020 and 2021 vintages, but so far remain lower than those of the 2016-2019 vintages (see chart below). However, the mounting 60-plus-day delinquencies on the prime 2022 vintage exceeded those of prior vintages and could spell trouble down the road.

Additionally, the prime first- and second-quarter 2023 vintages are reporting higher 60-plus day delinquencies than the 2022 vintage for the same month outstanding (see chart below). Given the rise in late payments, we would expect these quarterly vintages to post higher CNLs than the 2022 vintage. In fact, the CNLs for the prime first- and second-quarter 2023 vintages are tracking slightly higher than those of the overall 2022 vintage and the first- and second-quarter 2022 vintages.

The increase in subprime losses is due to a confluence of factors. These include subprime consumers' lower income, the outsized impact of inflation relative to prime counterparts, depleted savings from pandemic-related stimulus checks, and higher debt levels combined with the effects of aggressive lending in 2021 and the first half of 2022. Many lenders have also attributed the higher subprime net losses to more full-balance charge-offs due to the lack of repossession agents, the glut of repossessed vehicles, and higher repossession expenses. While these phenomena have led to lower cumulative recovery rates relative to prior vintages at the same number of months outstanding, the recovery rates could improve once the vehicles for the charged-off accounts are repossessed and liquidated, depending on conditions in the used vehicle market. However, many subprime lenders tightened their credit standards during the second half of 2022 and early 2023 when they saw that the 2022 deals were performing worse than expected--a factor that should help mitigate losses.

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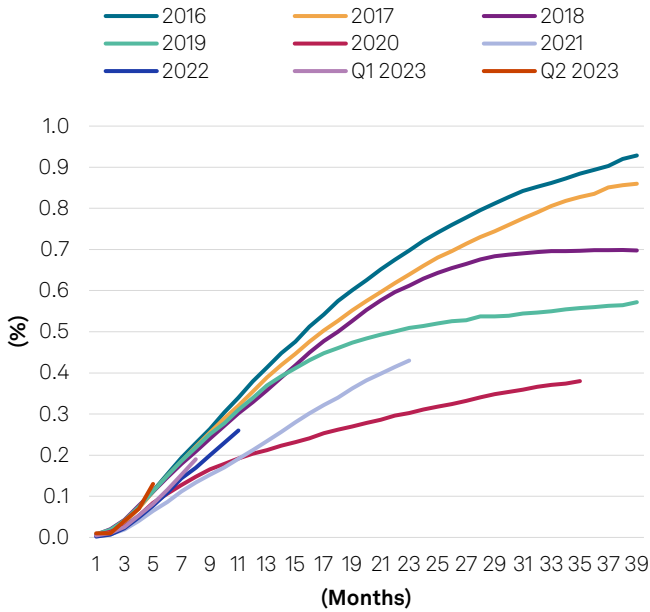
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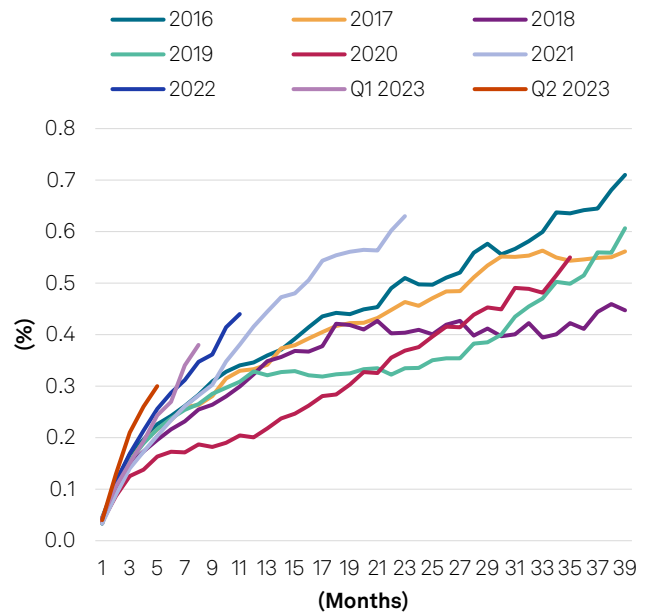
The slight deterioration in the 2023 prime vintage seems concentrated among certain used car retailers and new ABS issuers that specialize in longer-term loans. One concern with the 2023 pools (especially those that include loans originated in 2022 when vehicle prices reached their peak) is that the normalization of vehicle prices due to supply and demand coming into balance will not only increase loss severity but could lead to higher default frequency, depending on the degree to which the borrower is underwater on the loan.

Prime cumulative net losses by vintage



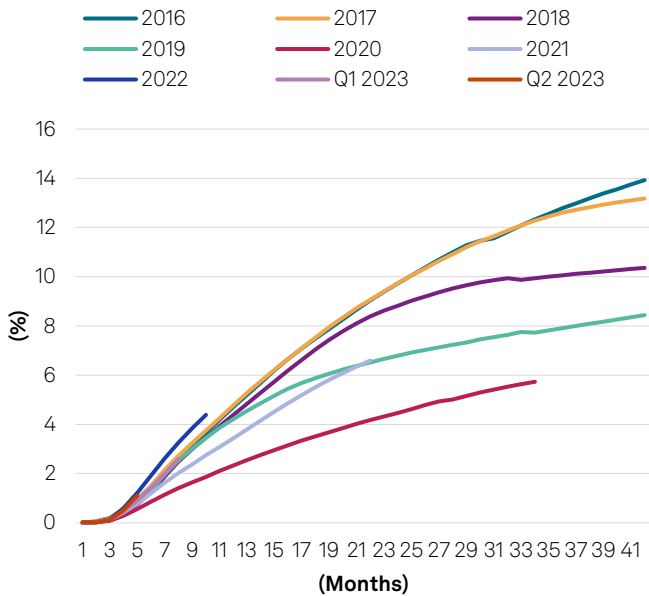
Source: S&P Global Ratings.

Prime 60-plus day delinquencies



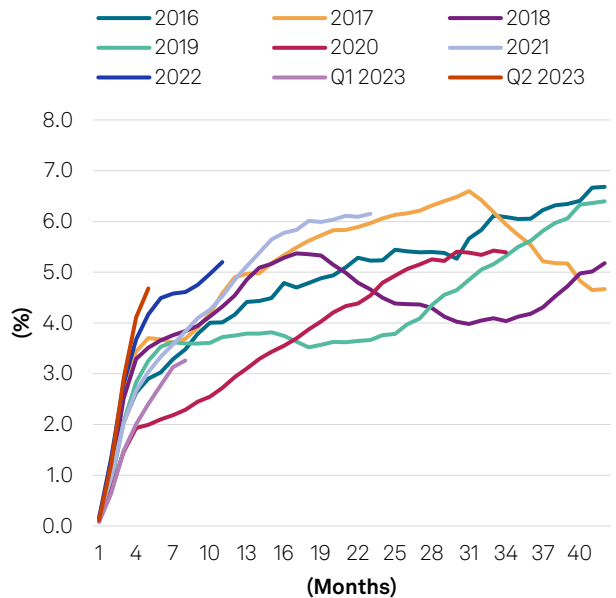
Source: S&P Global Ratings.

Subprime cumulative net losses by vintage



Source: S&P Global Ratings.

Subprime 60-plus day delinquencies



Source: S&P Global Ratings.

Global Structured Finance 2024 Outlook

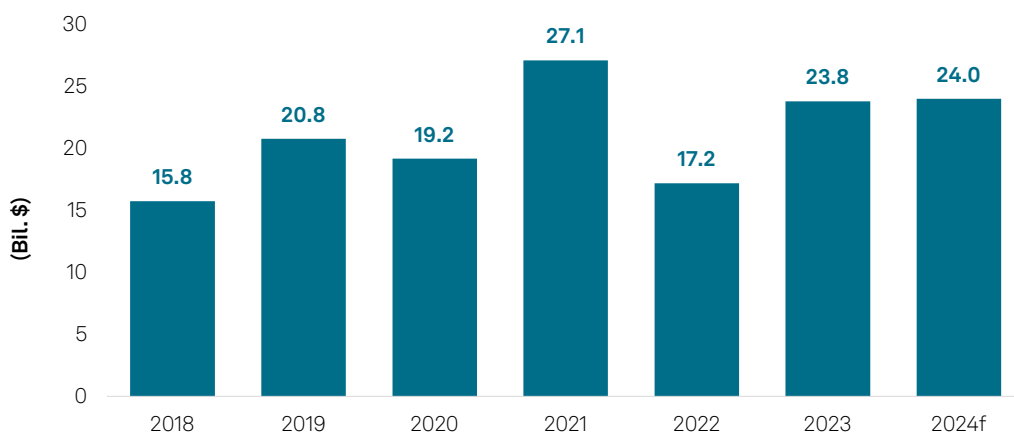
Our outlook for prime auto loan ABS ratings is stable to positive, but stable to negative for subprime. The more pessimistic outlook for subprime auto ABS stems from its greater performance deterioration (relative to prime) and the greater concentration of speculative-grade classes within the segment. Very few prime transactions issue speculative-grade debt, while many subprime transactions do. These classes are the most vulnerable to downgrades due to their lower levels of credit enhancement and the limited positive impact from deleveraging. (For more on the structural features of auto loan ABS, see "Seniority Has Its Privileges: Some 2022 Subprime Auto ABS Senior Classes Upgraded Despite Weaker Collateral Performance," published July 2023.)

U.S. | Auto Lease ABS

Issuance

U.S. auto lease ABS ended 2023 on a positive note, with issuance volume climbing 38% to \$23.8 billion year over year. This was mainly driven by stronger-than-expected new vehicle sales, which rose to 15.5 million units in 2023 from 13.7 million units in 2022, as residual supply chain constraints eased, inventory levels improved, and sales to fleets resumed. Slower economic growth and weakened consumer purchasing power should limit retail auto sales growth in 2024, and we expect auto lease ABS issuance volume will be more or less flat relative to last year (see chart below).

U.S. auto lease ABS issuance



f--Forecast. Source: S&P Global Ratings, Bloomberg, Green Street.

Credit And Collateral Performance

Average new vehicle transaction prices declined slightly in recent months, and we expect this trend to continue into 2024 due to potentially higher vehicle supply. We also expect incentive spending to rise to approximately 5% as vehicle supply increases. However, while this figure is firmly above the historical lows of 2%-4% captured in 2022-2023, it remains well below the pre-pandemic level of roughly 10%. Increased incentive spending and discounting should also help to lower the monthly lease payment amount, thus making auto lease a more attractive financing option for qualified consumers. Nevertheless, inflationary pressures, relatively high interest rates, and still-elevated new vehicle prices will limit spending as most consumers continue to face affordability concerns.

Off-lease vehicle return rates will likely continue to increase from the historical lows of about 10% in 2022 and 20% in 2023, while remaining below the pre-pandemic levels of 60%-70%. We also expect to see continued downward pressure on used vehicle values as vehicle supply starts to normalize in 2024.

Lease penetration (the percentage of new vehicles that are leased) will likely rise year over year in 2024 but remain below the pre-pandemic peak of roughly 30%. Lease penetrations levels rose to just above 20% in 2023 after falling to 18% in 2022 due to new vehicle shortages and minimal incentives. Most captive finance companies favor prudent usage of leasing because high penetration rates ultimately result in significantly depressed off-lease vehicle values.

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Global Structured Finance 2024 Outlook

We anticipate a higher concentration of electric vehicles (EVs) in auto lease ABS pools in 2024 due to the EV tax credit eligibility of most leased vehicles under the Inflation Reduction Act. In 2023, the combined concentration of plug-in and full-battery EVs ranged from 0.10% to just under 10% in the auto lease ABS transactions we rated.

Overall, we expect our ratings on auto lease ABS to remain mostly stable in 2024. Performance trends for rated auto lease ABS transactions remain stable or positive, and the credit loss is generally in line with expectations while residual performance continues to show gains.

U.S. | Commercial ABS

Issuance

U.S. commercial ABS issuance increased 24% year over year to \$35 billion in 2023, and we expect issuance volume to remain roughly flat or increase slightly to \$36 billion in 2024. The surge in issuance last year was primarily due to new market entrants and the return of auto floorplan issuers, which accounted for approximately \$2 billion and \$3 billion, respectively, of new issuance. Easing supply chain constraints, the fulfillment of pent-up demand, and stronger-than-expected U.S. GDP growth resulted in increased deliveries, which benefitted commercial auto fleets and technology equipment manufacturers. The top five commercial ABS issuers in 2023 were Enterprise Fleet Financing LLC, John Deere Capital Corp., Dell Financial Services, DLL Finance LLC, and CNH Industrial Capital America LLC.

Credit And Collateral Performance

Businesses are facing higher costs of capital, which we believe will lower capital expenditure in 2024. We also expect equipment investment to decline, based on companies' expressed intent to lower their capital expenditures, coupled with the decline in new and unfulfilled orders. Overall, tepid U.S. GDP growth, forecast rate cuts, and weak equipment investment are expected to result in limited ABS issuance volume growth in 2024.

Last year, fleet companies worked through outstanding orders and unfulfilled deliveries from legacy pandemic-related supply chain disruptions. We believe fleet issuers will maintain their strong ABS presence in 2024 due to continued demand for fleet vehicles, with a slight decline in deliveries year over year keeping issuance volume in line with 2023 levels.

Captive and independent equipment issuers could see a slight increase in issuance volume in 2024, driven by additional issuance from existing issuers and potential new issuers. Although we expect limited U.S. economic growth in 2024, we believe many weaker credits have been washed out of the system. As a result, a reduction in interest rates and any sustainable pricing power from the remaining winners should lead to stable performance for equipment issuers in 2024.

Overall, we expect U.S. commercial ABS' rating performance and credit trends will remain stable in 2024, based on the drivers listed in the table below.

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U.S. commercial ABS credit trends 2024

Primary segment	Credit trend drivers
Agriculture	Agricultural markets are heading into 2024 on the heels of strong performance due to high commodity prices, which benefited farmers in 2022 and 2023. The USDA expects crop prices to fall for the second consecutive year in 2024 but remain above pre-pandemic levels. Losses in agricultural ABS collateral pools have remained at historically low levels for the past several years. We expect losses to increase in 2024 but with the trends remaining in the lower levels of the normalized range.
Transportation	We expect the transportation sector performance to improve in 2024. The stress due to the steep decrease and normalization in freight rates post-pandemic primarily affected smaller owner-operators, which are not typically included in rated transportation ABS transactions. The removal of excess capacity from the industry has improved utilization and, coupled with lower interest rates and lower fuel prices, could provide a tailwind for the industry in 2024.
Construction	Defaults and overall losses on construction equipment are likely to remain relatively muted in 2024. We expect residential construction to remain flat but stable and nonresidential construction to be strong. In rated construction ABS transactions, solid equity positions in the equipment coupled with stable secondary market values will continue to support strong recovery rates.
Small ticket	Small-ticket equipment ABS performance tends to track the overall economy due to the highly diversified nature of the obligor base. We expect losses to remain low in rated small-ticket equipment ABS at levels similar to those of 2023 but higher than the historically low levels experienced in 2022.
Information technology	IT collateral pools are diversified across industries and have large concentrations of investment-grade commercial obligors. We don't expect any material credit weakness for these transactions in 2024--in line with our positive but muted real U.S. GDP expectations.
Floorplan	<p>We expect non-diversified floorplan trusts to exhibit stable performance, with losses expected to remain near zero, primarily due to manufacturer support. We view the manufacturer's financial health, as well as the dealer's (as obligor of the floorplan loan), as the key credit factors for this sector. Our outlook is based on the expectation that manufacturers will likely continue to provide significant financial support to dealers and may repurchase inventory upon dealer termination.</p> <p>Diversified floorplan credit performance is tied to the health of small businesses, as these collateral pools represent floorplan receivables originated by dealers to finance their vehicle inventories. Our analysis and credit enhancement incorporates historical loss-to-liquidation rates over multiple economic cycles. In our view, losses will not reach those of economic stress periods given the tepid GDP growth that is expected for 2024.</p>

U.S. | Unsecured Consumer ABS

Student Loan ABS

After a very slow start for new issuance at the beginning of 2023, there was a pickup in student loan ABS activity in the second half of the year. Sallie Mae was the most active, with four transactions for \$4.3 billion. Navient and College Avenue were also active, contributing four transactions that totaled approximately \$2.1 billion. As expected, the issuance has mostly been backed by in-school private student loans, with a few deals backed by refinance student loans. The state authority private student loan originators have also been in the market with their annual issuance programs. Still, the total student loan issuance for 2023 remained relatively low at roughly \$10 billion.

Private student loan performance saw some deterioration in 2023, as consumers faced challenges with inflation and higher interest rates. However, the heavy driver of loan performance--the unemployment level--has remained low, supporting loan performance. Unemployment forecasts for 2024 call for a slight increase, to 4.3%, suggesting that consumer performance could remain generally healthy. Private student loan ABS ratings have been stable, and we expect this trend to continue in 2024, except for current speculative grade ratings from private student loan transactions issued before 2009.

FFELP ABS transactions continue to wind down as classes pay off. The number of FFELP classes rated by S&P Global Ratings recently dropped below 480. During 2023, the U.S. Department of Education released a new income-driven repayment plan, called the SAVE plan. It appears to be the most generous plan to date and could attract borrowers looking to make their federal student loan debt payments more affordable. We continue to monitor our FFELP ratings, with a focus on payment rates. We believe the credit quality of FFELP student loan ABS will remain stable due to the U.S. government's guarantee on the underlying loans.

Because most economists and market participants foresee interest rates remaining higher for longer, there does not appear to be much opportunity for the refinance student loan to make a large comeback in 2024. This again leaves the in-school private student loan product as the primary asset for private student loan ABS in 2024. Given that scenario, we believe 2024 student loan ABS issuance will again be in the \$10 billion range.

Credit Card ABS

We expect credit card ABS issuance of approximately \$24 billion in 2024, which exceeds expected maturities of \$18 billion. In 2023, credit card ABS issuance volume totaled about \$23 billion, higher than the estimated maturities of \$18.1 billion. The higher and more volatile interest rate environment contributed to the lower new issue volume in 2023 relative to 2022 (see the Credit Card ABS Issuance Volume chart). We expect credit card ABS issuance to recover in 2024 as the Fed pivots from its tightening cycle and banks utilize securitization as an alternative funding source.

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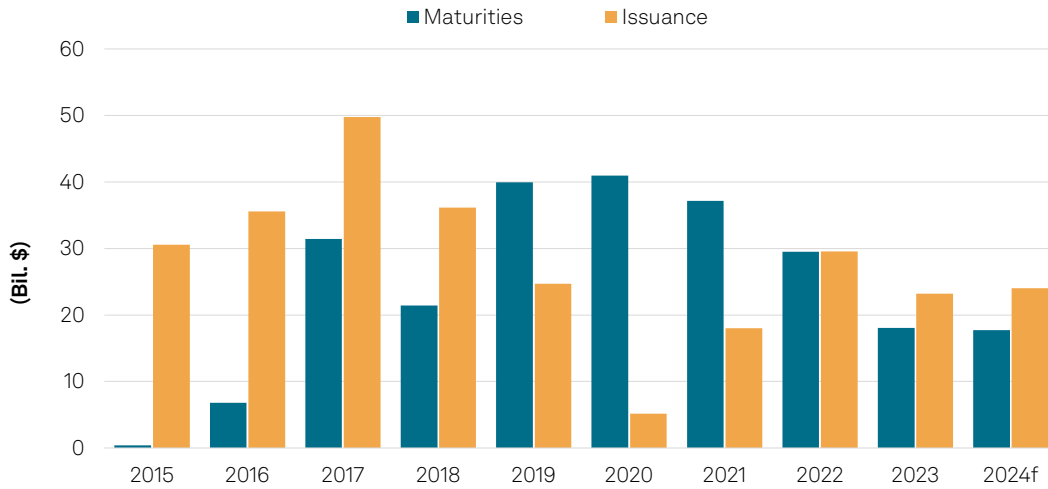


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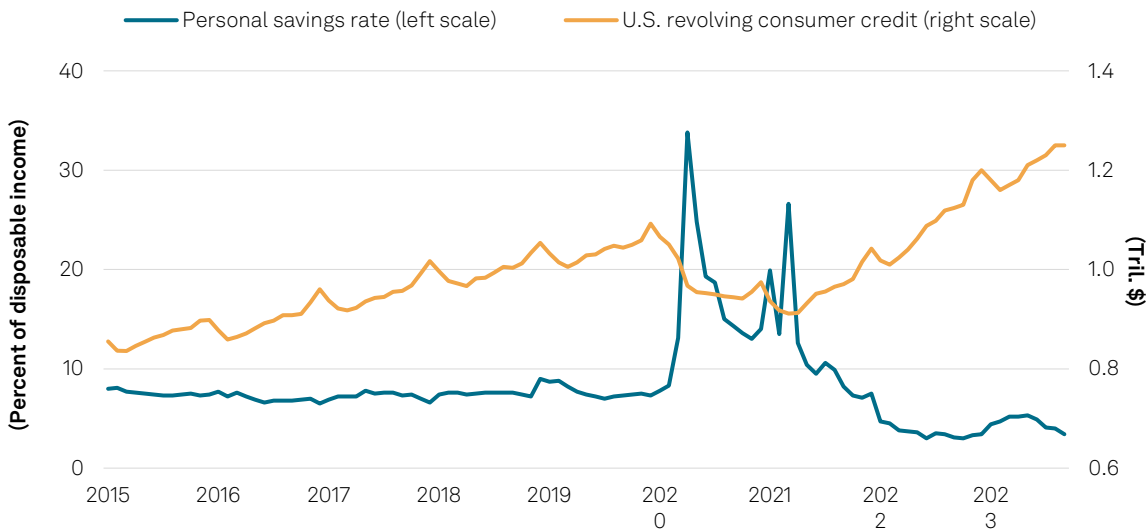
Credit card ABS issuance volume



f--Forecast. Source: S&P Global Ratings, Bloomberg, Green Street.

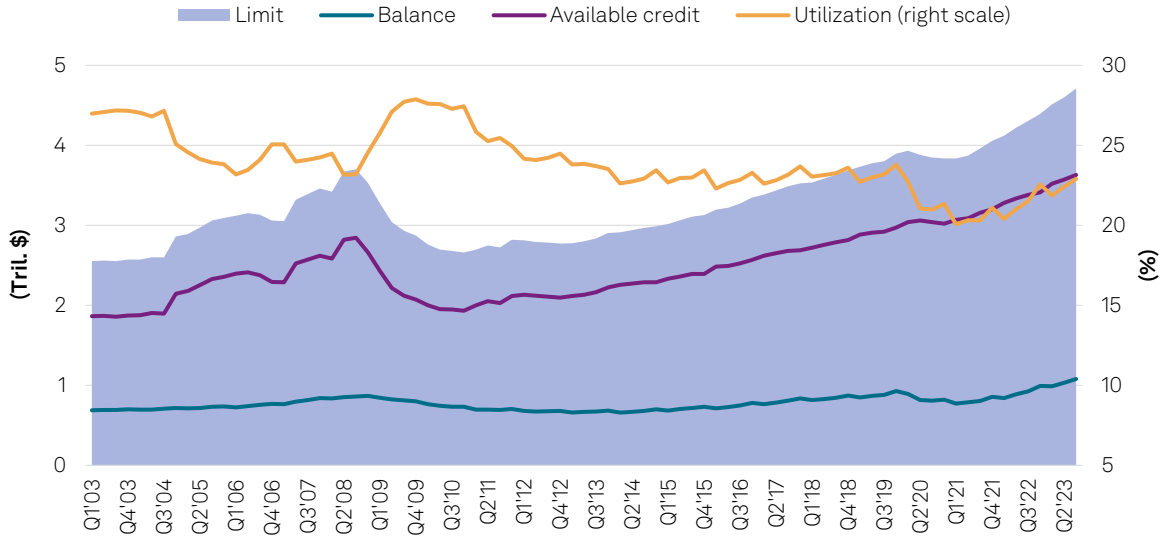
We expect to see somewhat weak credit card ABS collateral performance in 2024. The rapid increase in interest rates, persistent inflation, and rising unemployment will weigh on U.S. consumers' purchasing power and overall economic activity. S&P Global Ratings economists predict an increase in unemployment to 4.3% in 2024 from 3.6% in 2023. Meanwhile, consumer savings rates have dropped to the lowest levels in over a decade, and revolving consumer credit outstanding has increased to an all-time high of nearly \$1.3 trillion (see The U.S. Personal Savings Rate Vs. Credit Card Debt chart). The aggregate outstanding balance of U.S. credit card accounts increased 17% year over year at the end of third-quarter 2023, corresponding to a 7% increase in the credit card utilization rate (the balance divided by the limit), which now stands at about 23% (see the U.S. Credit Card Utilization chart).

U.S. personal savings rate versus revolving consumer credit



Sources: Federal Reserve Bank of St. Louis, New York Federal Reserve Consumer Credit Panel.

U.S. credit card utilization

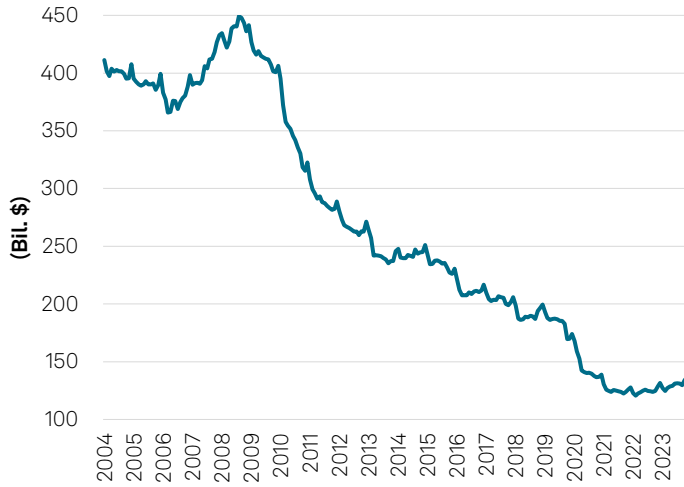


Source: S&P Global Ratings, New York Federal Reserve Consumer Credit Panel.

Receivables for the credit card trusts we rate (tracked in our U.S. Bankcard Credit Card Quality Index [CCQI]) are generally of a higher credit quality than the broader U.S. credit cards market due to higher seasoning and higher FICO scores. Trust receivable performance has been strong since the COVID-19 pandemic, with record low losses in 2021. Over the past 12 months, annualized net loss rates have increased from an average of 1.1% for the first nine months of 2022 to 1.7% for the same period in 2023 (see the Net Loss Rate chart). In 2024, we expect collateral performance to normalize to pre-pandemic levels, although we believe ratings will remain largely stable.

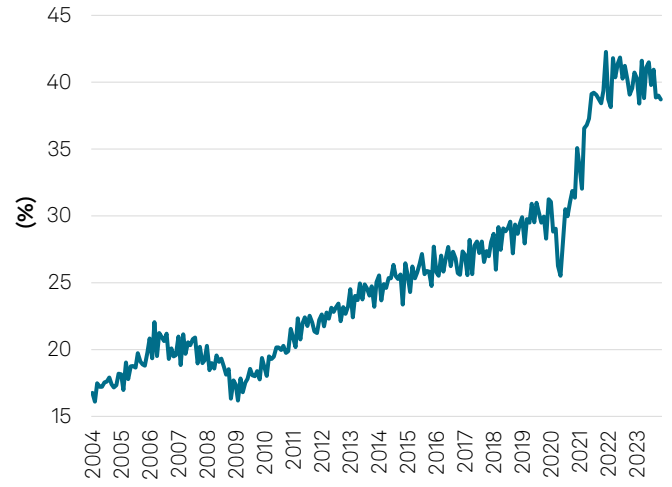
U.S. Credit Card Quality Index

Receivables outstanding



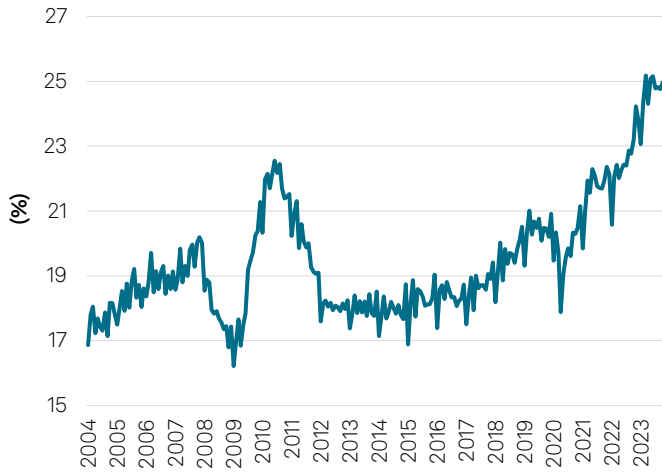
Source: S&P Global Ratings.

Payment rate



Source: S&P Global Ratings.

Yield



Source: S&P Global Ratings.

Net loss rate



Source: S&P Global Ratings.

Personal Loan ABS

Marketplace lenders remained active in the personal loan ABS market during 2023. S&P Global Ratings rates a small subset of these primarily branch-based lenders, including OneMain, Lendmark, Mariner, and Regional Management. These lenders issued \$2.9 billion of the \$14.5 billion 2023 issuance total. Issuance volumes in 2024 will likely be affected by the expectation of an economic slowdown and high funding costs. We forecast total issuance will reach \$13 billion in 2024.

Obligors in this subset are generally subprime to near-prime borrowers. The typical borrower in this market is most likely affected by the inflationary environment, and credit metrics are showing some deterioration in terms of rising delinquencies and losses. We are forecasting a slightly higher unemployment rate in 2024, and we expect to see continued tightening of underwriting leading to reduced originations. Loan servicing for these borrowers is vital and becomes a differentiating factor in performance when the economy weakens. For the issuers we rate in this space, our base case loss is typically developed using data sets that include performance volatility through economic downturns. Our base case reflects a loss level that is higher than current performance and allows for some deterioration. For 2024, we expect lenders to be more prudent in the origination process and more focused on credit quality. We believe our ratings will remain stable, but speculative-grade ratings may be pressured if loan performance deteriorates beyond our base case loss level.

U.S. Mobile Handset ABS

During 2023, Verizon issued \$4.8 billion of device payment plan agreement (DPPA) ABS bonds from seven issuances out of its Verizon Master Trust (VZMT) facility established in 2021. This followed annual issuance of \$4.7 billion and \$3.1 billion from VZMT in 2022 and 2021, respectively. Verizon previously issued \$17.6 billion of DPPA bonds from 13 discrete Verizon Owner Trusts (VZOT) from 2016 to 2020. Twelve of these transactions have been redeemed or paid off; VZOT 2020-C is still outstanding but has amortized down to a note factor of 11%.

In February 2022, Verizon announced that, going forward, it would originate only 36-month-term DPPA loans. (Previously, it originated 24- and 30-month loans.) Since 2021, Verizon's securitizations have comprised up to 10% business DPPAs. Otherwise, eligibility criteria and concentration limits for the pools backing its ABS bonds remain essentially unchanged. The VZMT capital structures have also been consistent, with three classes of notes rated in the 'AAA', 'AA', and 'A' rating categories.

S&P Global Ratings' cumulative expected loss rate for the VZMT collateral pools (based on the transaction eligibility criteria and concentration limits) is 4.00%, which includes a factor for the longer term of the loans. To date, including during the COVID-19 pandemic, we have not observed a meaningful increase in cumulative net losses for Verizon's loan products, which we analyze based on the obligor's status (consumer or business) and the length of those obligors' customer tenure with Verizon.

We project Verizon's annual issuance volume for 2024 to be in the range of \$4.5 billion to \$5.0 billion, and we expect the credit performance of DPPA loans and DPPA-backed ABS bond transactions to remain stable going forward.

U.S. | Non-Traditional ABS

Utility-Related Securitization

We expect utility-related securitization volume to increase in 2024 as the frequency and impact of extreme weather events multiply and green energy transition reduces utilization of fossil fuel plants, creating higher operating costs for electric utilities. Securitization generally allows utilities to offer long-term bonds to investors to pay off short-term debt. Performance among our rated transactions has historically been stable due to the strength of the transactions' "true-up" mechanisms, which periodically adjust utility billing rates to ensure collections match the payment obligations of the issuer

Corporate Securitization

We expect quick-service restaurant sales to flatten out in 2024 as pricing stabilizes, and we don't envision a significant increase in traffic. Performance was strong across our rated corporate securitizations in 2023 as a full year of 2022 price increases were realized. Margins are beginning to strengthen as supply costs level off, although labor costs continue to rise. Only one of the transactions we rate has classes with anticipated repayment dates (ARDs) in 2024: TGIF Funding, LLC. However, we do anticipate issuance in the mid- to high-single-digits in 2024 because there is over \$2.5 billion of outstanding notes with ARDs in 2025, as well as general financing needs from existing master trusts and potential new issuers.

Timeshare

We believe slower growth, continued inflation, and higher interest rates could stretch the consumer further, leading to higher delinquencies in 2024. Ratings performance was stable in 2023, but delinquencies rose as consumer savings contracted due to inflation and the lack of further government pandemic-related support programs. Elevated homeowners' association dues may also place upward pressure on delinquencies. However, we do not see any near-term rating stress at this time. We expect issuance to remain steady as developers continue to see relatively strong demand post-pandemic, which is amplified by the value proposition of the timeshare product versus higher hotel costs.

Triple Net lease (NNN)

Certain rated NNN lease portfolios saw an uptick in tenant bankruptcies, delinquencies, and vacancies in 2023, which contributed to lower collections. We expect weaker tenant performance to continue into 2024. Capitalization rates may widen more for assets with weaker growth prospects, such as certain retail properties. However, properties with long-term leases are less exposed to mark-to-market risk. In 2024, we believe the diversified retail-oriented master trusts will continue with their annual issuance cadence and refinance near the ARDs (approximately \$450 million is due in 2024). Issuers with alternative funding sources will weigh fund costs against ABS. Issuance in the industrial portfolios will likely be muted.

Data Center

We expect strong demand for data centers for the foreseeable future as computing needs continue to expand. The portfolios we rate saw largely stable performance in 2023 due to consistent lease cash flows stemming from longer-term lease contracts and credit tenants in the

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wholesale data center space. However, one wholesale data center tenant, a retail colocation operator, filed for bankruptcy and rejected its leases. New data center development is somewhat limited in certain markets due to site availability, global supply chain issues, and power constraints, which will support lease rates, occupancy levels, and valuations. We believe strong demand will lead to the development of additional data centers and financing needs for existing and new issuers. However, robust 2023 issuance volume may be hard to surpass.

Small-Business Loans

With bank lending constrained, we expect demand to remain strong for SBA loans among small businesses in 2024. Today's strict bank lending standards could create market share growth opportunities for smaller banks and non-bank lenders. Therefore, we expect continued issuance from the larger players with the possibility of new entrants in the coming year.

Aircraft

Aircraft ABS transactions generally exhibited strong performance throughout 2023 as global air traffic picked up and approached 2019 levels. Consequently, both the base and utilization rents for aircraft leasing ABS transactions were quite strong, which, along with opportunistic disposition activities, improved the pace of paydown of rated notes in 2023. We also noticed some stability in half-life appraisal values compared with the 2022 valuations. Based on these trends, we completed 37 upgrades, in addition to 16 downgrades and 11 affirmations in 2023. Because we expect this trend to continue, our outlook for aircraft ABS rating performance is stable for 2024. Given the mismatch between interest rates and the lease rates, 2023 saw no new issuance rated by S&P Global Ratings. However, with the rates stable, albeit higher, and with expectations of rate cuts in 2024, we forecast some pick-up in new aircraft ABS issuance.

Container/Railcar

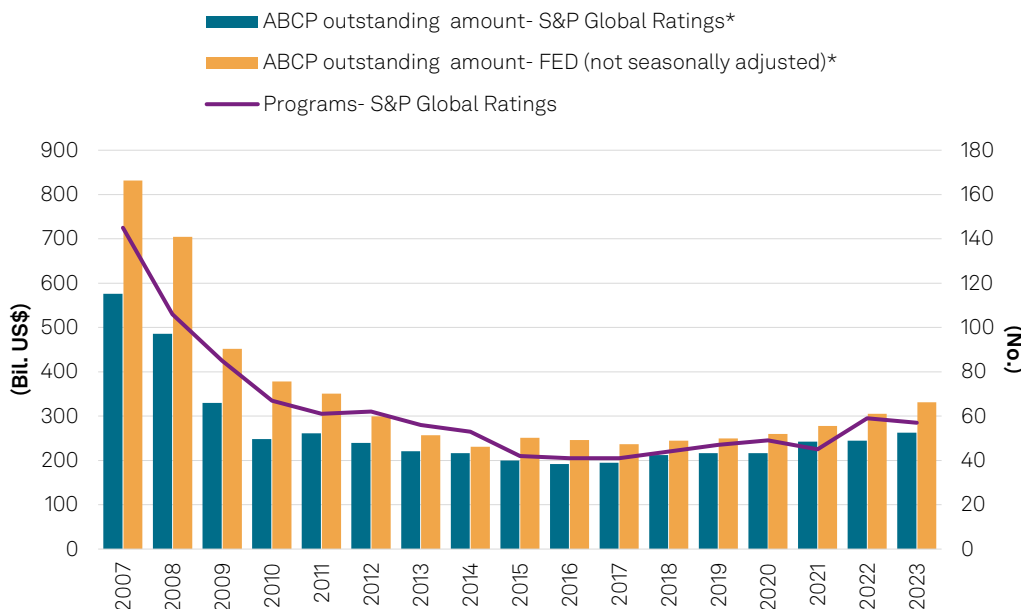
We expect new issuance volume to remain low in 2024, given the high interest rate environment and lessors' limited capital expenditures. Container and railcar securitizations' rating performance was stable in 2023 with some upgrades in the sector based on strong performance. We expect rating performance to remain stable in 2024.

U.S. | ABCP Muni-Structured

Asset-Backed Commercial Paper (ABCP)

We forecast U.S. ABCP outstanding to be between \$315 billion and \$320 billion in 2024, up from an average of \$300 billion during 2023. U.S. ABCP outstanding reached \$337 billion at the end of 2023, driven by increased utilization typically seen during the fourth quarter as client funding demands rise at year end. Based on our steady outlook for global banks (see "Global Banks Outlook 2024: Forewarned Is Forearmed," published Nov. 15, 2023), we expect stable performance for both ratings and collateral in 2024. As of Oct. 31, 2023, 79% of bank rating outlooks were stable. This resilience is largely due to solid capitalization, improved profitability, and sound asset quality.

U.S. historical ABCP market trends



Note: The data present values as of Dec. for each year with the exception of ABCP outstanding - S&P Global Ratings, which is as of Nov. 2023. *Represents total funding commitments. ABCP--Asset-backed commercial paper. Source: S&P Global Ratings, U.S. Federal Reserve.

Derivative-backed ABCP issuances contributed to the growth in outstanding ABCP during 2023, which we expect to remain a driving force in 2024 since these fundings typically offer capital relief solutions for banks as jurisdictional regulations continue to evolve. For traditional multi-seller ABCP programs, utilization is expected to be approximately 60%-70%, while issuance levels will be determined by the level of inflation and the interplay of the Fed's move to cut rates beginning in mid-2024 (see "Global Macro Update: 2024 Is All About The Landing," published Nov. 29, 2023). Lower short-term rates will bolster warehouse funding in ABCP programs while lower long-term rates will increase ABS issuances.

Collateral performance in consumer assets is expected to weaken due to the sharp slowdown in real income growth, the low household savings rate, inflationary pressures, and the anticipated increase in unemployment. However, exposure to the somewhat weaker sectors in ABCP programs was low at around 5% of invested amounts during 2023, and it is likely to remain near this level. Loss coverage multiples remain robust for assets funded in partially supported ABCP

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programs with credit enhancement commensurate with high investment-grade ratings and an additional fungible layer of program wide enhancement benefiting such assets.

We currently rate ABCP issued by 57 programs in the U.S. Of these, seven are rated 'A-1+', and 50 are rated 'A-1'. Approximately 87% are fully supported programs and fully supported transactions funded in partially supported programs, and 13% are partially supported transactions (as of September 2023).

Variable Rate Demand Obligations (VRDOs)

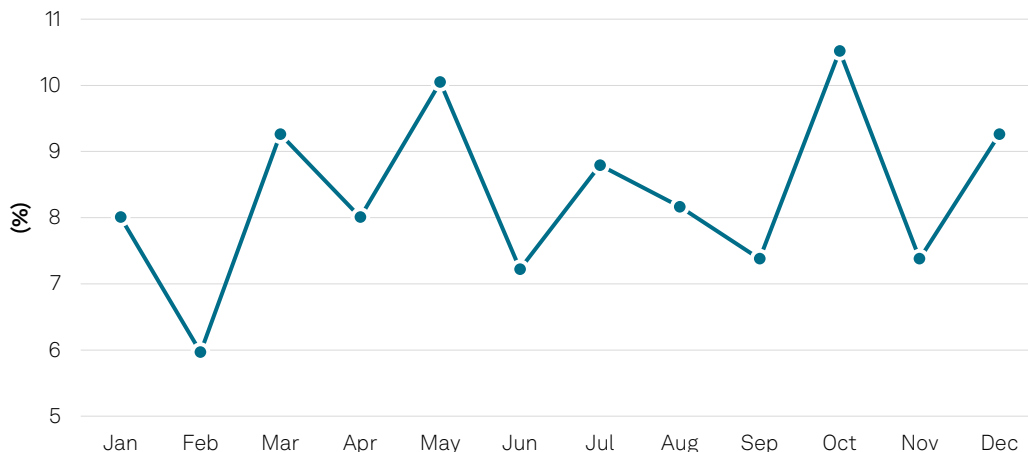
Overall VRDO issuance was down slightly year over year in 2023; however, issuance has still followed annual trends. That is, issuance ticks up in January, June, and December, with lower but steady issuance throughout the year. Many VRDOs have exposure to regional banks. Despite some concerns in early 2023, no major puts or wind-downs occurred among exposed transactions.

Tax-exempt rates were volatile throughout 2023 but stabilized by the end of the year, and they should remain stable into the start of 2024. Much of this is a function of dealer inventory, which has been lower in recent months relative to early 2023.

Looking ahead, we see the potential for seasonal spikes in letter of credit (LOC) expirations (see chart below), expressed as a percentage of the 637 transactions that have credit/liquidity support expiring in 2024. This suggests we could see increased potential rating events due to provider changes in January, March, and August.

Transactions expiring per month

(as a percentage of all transactions expiring in 2024)



Source: S&P Global Ratings.

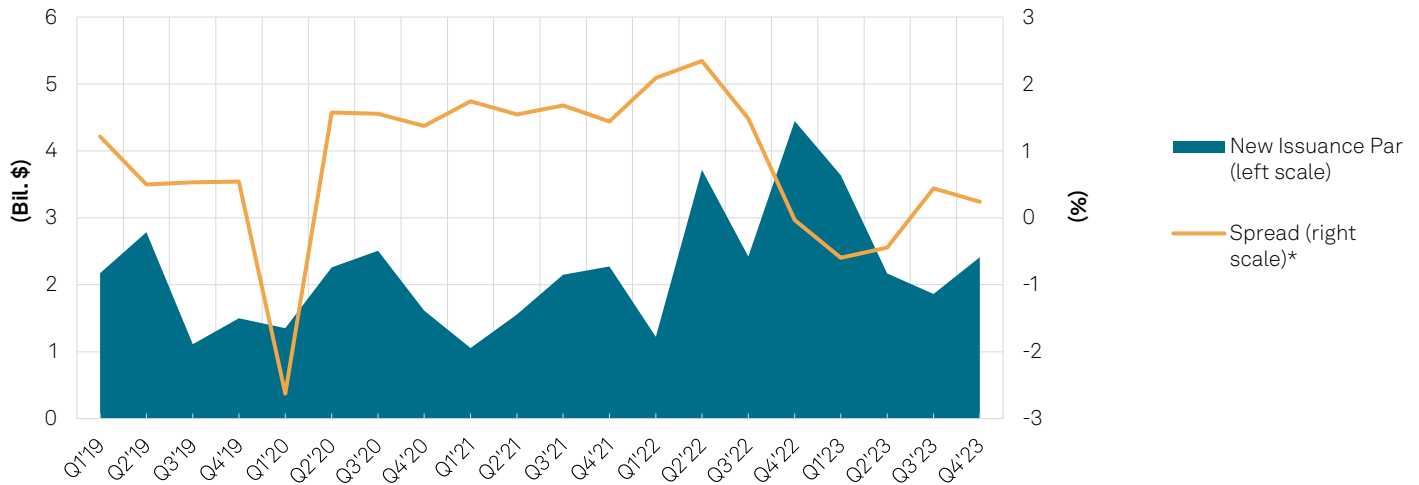
The majority of VRDO transactions are supported by U.S. or Canadian banks. In our article, "Global Banks Outlook 2024: Forewarned Is Forearmed," published Nov. 16, 2023, we note that for U.S. banks, most measures of credit quality remain in good shape, and we expect delinquencies and charge-offs to continue rising toward historical averages amid limited economic growth, declining consumer savings, and stress in areas like commercial real estate. Meanwhile in Canada, delinquencies are climbing. We expect asset quality to normalize from very strong levels and banks to continue to build allowances. We expect net charge-offs to rise but to remain manageable.

VRDO issuance remains a cost-effective financing option for municipal issuers and, assuming the short-term rate environment remains on current trend, we expect to see issuance at levels equivalent to those of 2023.

Tender Option Bonds (TOBs)

We expect 2024 TOB issuance to increase slightly from 2023 levels. In 2023, we rated 508 new TOB transactions with a total par amount of approximately \$10.7 billion. The strong issuance is largely due to the refinancing of existing low-yielding trusts. To maintain their leveraged positions amid higher financing costs, many sponsors were required to collapse their existing TOB trusts and set up new, higher yielding ones. This has resulted in record issuance over the past two years. As the Fed recently indicated that it expects to cut interest rates three times in 2024, the drop in short-term interest rates may help to reduce financing costs, resulting in greater spread, and potentially leading to an increase in TOB issuance.

Tender option bonds: new issuance vs. spread



*Spread = BVAL Muni Benchmark 30-year Index minus SIFMA Muni Swap Index, quarterly average. Source: S&P Global Ratings, Bloomberg, SIFMA.

We expect stable rating performance on TOBs given the relatively stable credit profile of underlying municipal bonds and public finance sectors, and of the liquidity banks (see "Global Banks Outlook 2024: Forewarned Is Forearmed," published Nov. 15, 2023).

U.S. | CLO

An Evolving CLO Market

We believe new issuance volume in 2024 will be \$110 billion across the U.S. CLO market, about the same as the \$116 billion we saw in 2023, with an increasing proportion of issuance coming from middle-market (private credit) CLO transactions. In recent years, middle-market transactions have accounted for 9%-12% of total U.S. CLO issuance volume, but 2023 was different, with about 23% of issuance coming from the private credit space. In a year where broadly syndicated loan (BSL) CLO issuance fell more than 24% to \$89 billion amid limited corporate loan supply and challenging new issue CLO economics, middle-market CLO issuance surged to \$27 billion -- a 126.2% increase over the prior year.

The rapid growth of the middle-market CLO sector stems from an expanding buyer base as investors take note of higher spreads and CLO tranche subordination, and also due to the robust performance of middle-market CLO ratings during the pandemic, when only 1% of middle-market CLO ratings were lowered versus about 13% for BSL CLOs. More broadly, banks' limited risk tolerance and capital considerations, as well as their willingness to provide credit to nonbank lenders, continues to fuel private credit. Some middle-market CLO issuers tell us they plan to increase their use of CLOs as a means of diversifying funding sources for direct lending, and many investors have indicated they plan to increase allocations. We expect continued growth from the middle-market CLO space in 2024.

Leveraged Finance Under Stress, But CLO Ratings Should Remain Mostly Stable

The highly leveraged companies that issue most of the loans in CLO collateral pools remain under stress as the impact of higher interest rates and slowing growth put pressure on borrower interest coverage and earnings. Ratings on BSL issuers (and credit estimates on middle-market loan issuers) saw more downgrades than upgrades in 2023, a trend we expect will continue into 2024. Despite this, our outlook for U.S. CLO ratings is mostly (though not entirely) stable due to the rating cushion available to support most CLO tranches. We expect to see some CLO rating downgrades in 2024, but most downgrades should be confined to speculative-grade tranches of BSL CLOs originated before the arrival of the pandemic (first-quarter 2020), which are already showing signs of stress. Some junior middle-market CLO tranches could also come under pressure if they see defaults in their collateral pools, given the lower diversification within these CLO portfolios.

It's worth noting the historically large proportion of CLOs currently in their amortization period--about 35% of total CLOs today, and potentially 50% of CLOs by the end of 2024. While managers don't completely lose the ability to purchase assets as soon as a CLO exits its reinvestment period, it gets harder to add new assets to a collateral pool as a CLO bumps up against its maximum weighted average life (WAL) test. The large overhang of amortizing CLOs is largely a product of the limited number of CLO resets since February 2022. Limited CLO reset activity has not prevented the loan market from chipping away at the nearer-term loans in the maturity wall, with plenty of companies refinancing or executing amend-to-extends on their loans, or in some cases, exiting to the private credit or high-yield bond markets. For the CLOs themselves, however, this can present challenges. Without the ability to optionally redeem the CLO notes (because the liquidation value of the collateral wouldn't be sufficient to cover the rated notes) or reset and extend the CLO's maturities (because a capital contribution might be required and current spreads challenge the transaction economics), many of these CLOs could see a negative

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selection bias in their collateral pools as stronger obligors pay down, leaving weaker loans behind and pressuring junior tranche ratings.

CLO BSL Index metrics – December 2023

As of date	'B-' (%)	CCC' category (%)	Nonperforming assets (%)	SPWARF	WARR (%)	Watch negative (%)	Negative outlook (%)	Weighted avg. price of portfolio (\$)	Jr. O/C cushion (%)	% of target par	'B-' on negative outlook (%)
12/31/2022*	30.48	4.67	0.39	2751	59.99	0.11	14.35	92.93	4.95	100.16	3.70
1/31/2023*	30.60	4.90	0.37	2755	60.10	0.15	14.81	94.83	4.85	100.15	3.80
2/28/2023*	30.94	4.61	0.55	2759	59.93	0.21	15.70	94.72	4.78	100.13	4.01
3/31/2023*	31.00	4.82	0.54	2756	59.76	0.33	16.12	94.03	4.69	100.14	4.11
4/30/2023*	31.19	5.26	0.57	2765	59.64	0.33	16.63	94.29	4.63	100.13	5.29
5/31/2023*	30.11	6.16	0.66	2783	59.47	0.52	15.97	93.40	4.50	100.03	4.63
6/30/2023*	29.29	6.70	0.62	2774	59.51	0.47	15.80	94.91	4.35	99.98	4.72
7/31/2023*	28.71	6.50	0.67	2763	59.42	0.32	16.48	95.40	4.27	99.93	5.35
8/31/2023*	28.59	6.93	0.59	2763	59.45	0.33	17.13	95.80	4.21	99.90	5.79
9/30/2023§	28.73	6.99	0.54	2761	59.33	0.63	17.29	95.93	4.21	99.88	6.18
10/31/2023*	27.29	7.82	0.58	2774	59.39	0.94	17.86	95.17	4.17	99.83	5.85
11/30/2023§	26.90	7.59	0.47	2751	59.20	1.02	18.28	95.77	4.08	99.76	5.99
12/20/2023†	26.85	7.67	0.47	2752	59.15	1.01	18.28	95.88	4.08	99.76	5.93

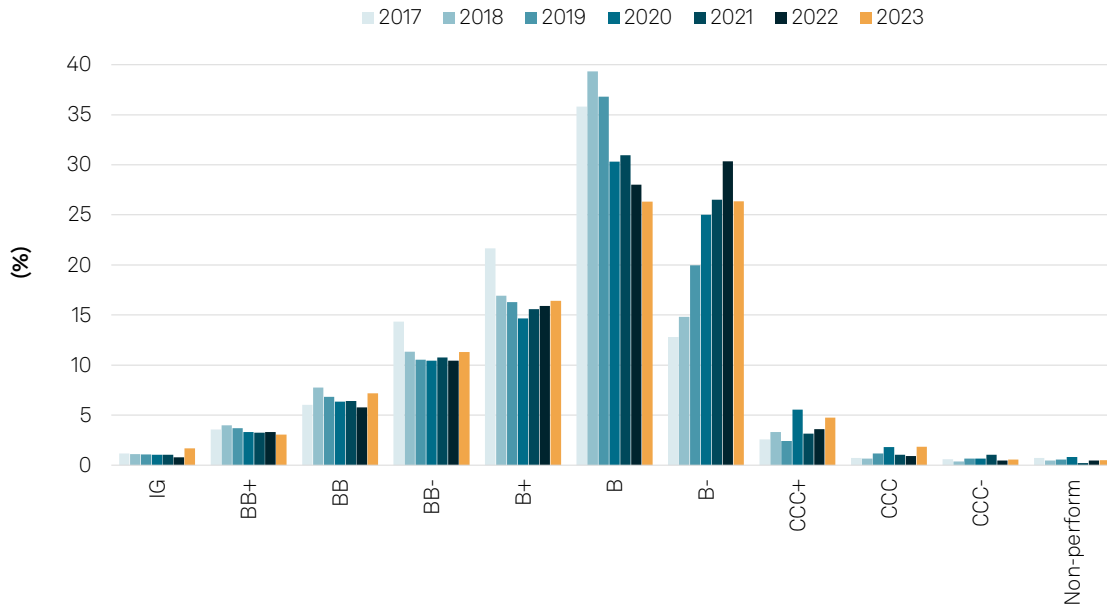
*Based on end of month ratings and pricing data and as of month portfolio data available. §Based on 11/30/2023 ratings and pricing data and latest portfolio data available. †Based on 12/20/2023 ratings and pricing data and latest portfolio data available. Source: S&P Global Ratings.

CLO 'CCC' exposure will likely continue to creep up amid persistent corporate rating downgrades, although active management and de-risking of CLO collateral pools by managers should mitigate the growth of 'CCC' buckets to some extent. In our recent publication, "Managers Matter: Active Management Of BSL CLOs During Uncertain Times Shows Its Value," published Nov. 30, 2023, we found that without active management, BSL CLOs could have seen their average 'CCC' exposure grow to more than 10% instead of the current 7.84%. Our forecast for the speculative-grade bond and loan issuer default rate (including selective defaults) is 5% by September of 2024. In our downside case, defaults could rise to 7%, well above the long-term historical average of 4.1%. The current speculative-grade default rate is 4.07% (as of Sept. 30, 2023); although, the current level of defaulted assets within BSL CLO collateral pools remains well below this level.

The proportion of assets from 'B-' rated companies in BSL CLO collateral pools peaked at more than 31% in April 2023 and has been gradually declining since then. This is largely due to fewer companies seeing their ratings lowered to 'B-', some 'B-' rated companies being lowered into the 'CCC' range, and CLO managers trading assets to de-risk their collateral pools. In addition, some lower-rated (including 'B-') BSL issuers have transitioned to the private credit market in search of more refinancing options.

Rating distribution for assets in reinvesting U.S. BSL CLOs (2017-2023)

Year end data



Latest data as of year-end 2023. IG--Investment grade. YE--Year end. Source: S&P Global Ratings.

The average BSL CLO in our index of reinvesting transactions has a 4.16% 'BB' overcollateralization (O/C) ratio test cushion. This is lower compared to the start of 2023 (4.95%), but still healthy from a historical perspective. Our analysis shows that BSL CLO 'CCC' baskets would need to increase into the mid-teens before the average 'BB' tranche O/C test fails (see "How Rising U.S. BSL CLO 'CCC' Baskets Could Affect Junior Overcollateralization Test Cushions," published April 28, 2023) published April 28, 2023). It's worth noting the difference in performance between CLOs originated before the arrival of the pandemic and after, with the average junior O/C ratio test cushion on the pre-pandemic CLOs (3.05%) much tighter than the cushion on the post-pandemic CLOs (4.67%). In both cases, it seems likely that the cushion may gradually decline over time until the corporate credit environment changes.

U.S. | RMBS

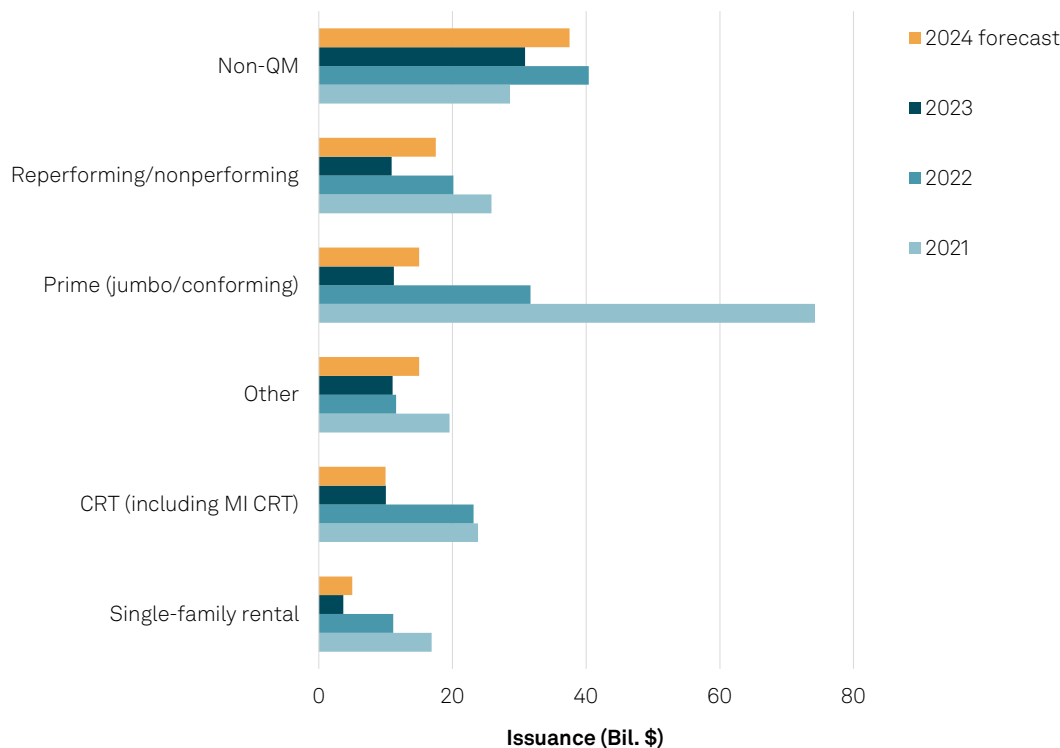
Expected Growth In Origination And Issuance

A persistently wide 30-year fixed-rate mortgage spread to the 10-year Treasury note yield, coupled with a lack of existing homes for sale, resulted in historically low mortgage originations and securitization activity in 2023. However, the sluggish market is poised to pick up in 2024 as housing and mortgage credit fundamentals appear favorable going into the new year. A correction in home prices at the national level appears unlikely in 2024, especially as expected interest rate declines should help boost affordability. Moreover, existing home inventories are likely to remain low as population growth supports demand.

Based in part on Fannie Mae’s (approximate) 20% projected annual growth in originations, we are forecasting U.S. RMBS volume to be \$100 billion in 2024, which is about 30% higher than the 2023 total of roughly \$78 billion. We expect the majority of issuance volume to come from the non-qualified mortgage (QM) space, as the debt service coverage ratio (DSCR) investor loan subsector continues to be a popular origination product, notwithstanding lower home inventory. The U.S. Non-Agency RMBS Issuance chart breaks out our issuance expectations by RMBS subsector.

U.S. non-agency RMBS issuance

Actual vs forecast



Non-QM--Non-qualified mortgage. MI--Mortgage insurance. CRT--Credit risk transfer. 'Other' includes HELOC/2nd liens, RTL (Residential-transition loans), reverse mortgages, and shared appreciation transactions. Source: S&P Global Ratings, Bloomberg, Green Street.

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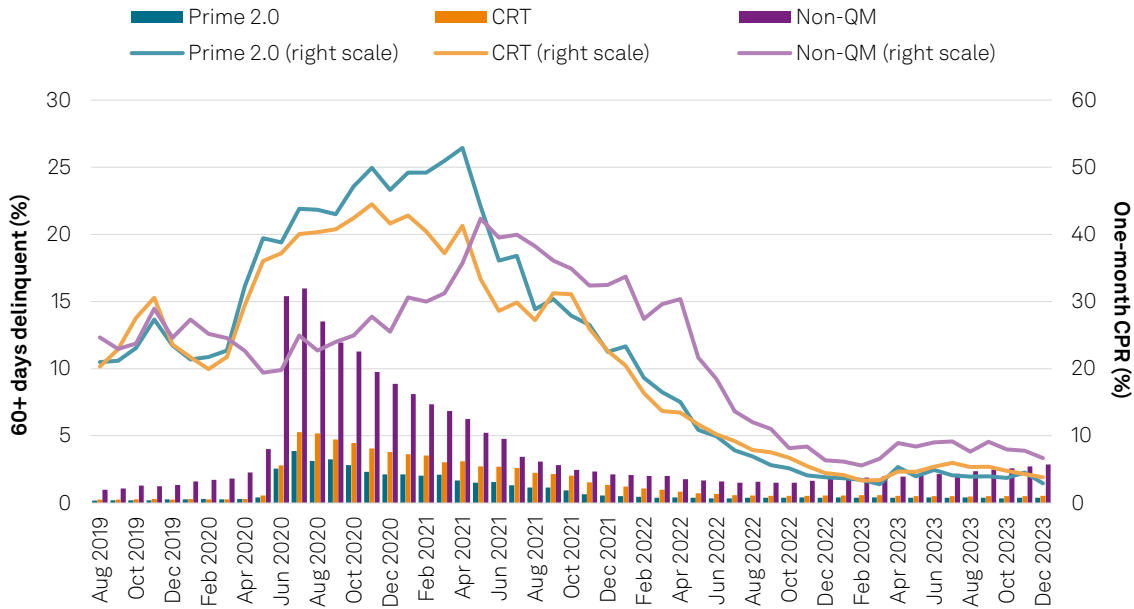


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RMBS collateral performance



Data as of Jan. 1, 2024. Outstanding S&P Global Ratings rated U.S. RMBS portfolio. CPR--Conditional prepayment rate. CRT--Credit risk transfer. Non-QM--Non-qualified mortgage. Source: S&P Global Ratings.

The 30-year fixed-rate mortgage is forecast to decline to 7.3%, 7.0%, 6.6%, and 6.2% over the successive four quarters in 2024. However, because 80% of mortgagors in the U.S. enjoy sub-5% mortgages, this decrease is not likely to produce a wave of prepayment activity. Rather, it would be those borrowers who took out mortgages over the past year or so that might be encouraged to refinance--especially as loan officers will be attempting to fill pipelines and provide low-cost mortgage alternatives.

RMBS performance held up in 2023, despite concerns about the availability of excess savings and the impact of inflation on consumer credit (see the One-Month CPR And 60+ Days Delinquency Rate By Sector chart). We have forecast the unemployment rate to be 4.3% in 2024, which is up from the 2023 level but still low by historical standards. In any case, most homeowners have locked in low mortgage rates and enjoy a natural inflation hedge, so we expect overall RMBS performance to remain solid, albeit with regional variation.

U.S. | CMBS

Issuance And Sector Fundamentals

We expect \$50 billion in private-label U.S. CMBS issuance in 2024 (not including commercial real estate [CRE] CLOs).

2023 was a challenging year for the CMBS market. While multi-decade record inflation eased notably, historically high interest rates (both short- and long-term), the regional banking crisis, and acute unease with office sector fundamentals led to difficult financing conditions. Issuance volume ended the year at over \$39 billion, down 44% from 2022's \$70 billion, which was down from 2021's post-Global Financial Crisis (GFC) high of \$110 billion. While issuance volume decreased in back-to-back years, 2023 also marked the first time since 2020 that conduit transaction volume kept pace with single-asset single-borrower (SASB) transactions. Conduit and SASB transactions each accounted for about half of total U.S. CMBS volume. We believe conduits are gaining favor with borrowers that are willing to accept five-year loan terms with higher interest rates and the added benefit of not having to obtain costly interest rate caps or loan extensions for floating-rate debt. Still, conduits in 2023 remained notably smaller and more concentrated than 2021 and 2022 levels. A key question is whether the risk of more concentrated pools will be outweighed in the long run by relatively lower leverage loans, especially as it relates to the credit enhancement for bonds with low investment-grade ratings. Looking ahead, we see current headwinds that will continue to challenge fundamentals and issuance volume.

The cost of capital remains the primary headwind for the sector. While we may have reached the upper end of the range for benchmark rates, the growing acceptance that they may hold at these elevated levels throughout most of 2024 means that much of commercial real estate will remain effectively in recession. Higher interest rates have translated to higher cap rates and lower corresponding valuations. Loan coupons have nearly tripled in the past 24 months from lows of roughly 3% to over 8%, stressing loan debt service coverages (DSCs). While stressed DSCs have forced loan-to-value (LTV) ratios to decrease, the share of interest-only loans has reached all-time highs. In the case of floating-rate debt, the stress has become sufficiently acute that there are instances where interest rate cap agreements are "in the money" at closing, meaning property cashflows can fully meet debt service payments only with the support of the cap agreement.

While data center and industrial asset types have, on a relative basis, outperformed along with consumer-facing asset types, such as lodging and retail properties, the office sector remains in deep distress. Until office market fundamentals (asking rents, market vacancies, etc.) improve or at least bottom out, the sector will effectively remain unfinanceable. On a more hopeful note, the pull-back in commercial real estate lending by regional banks may provide financing opportunities for CMBS to access new markets. Viewed collectively, the balance of probabilities suggests that private-label CMBS issuance volume could be up 25%-30% in 2024, but far short of historical issuance volume levels.

Credit And Collateral Performance Outlook

The downward pressure on valuations that started in 2022, after a decade of significant price appreciation and strong fundamentals across most sectors, persisted throughout all of 2023. While higher rates and increased uncertainty have forced all sectors to confront tougher financing conditions and less liquidity, certain segments of retail malls and office assets continue to be under extraordinary pressure given their cloudy outlook. According to Green Street's Commercial Property Price Index (CPPI), aggregate property prices as of December 2023 had

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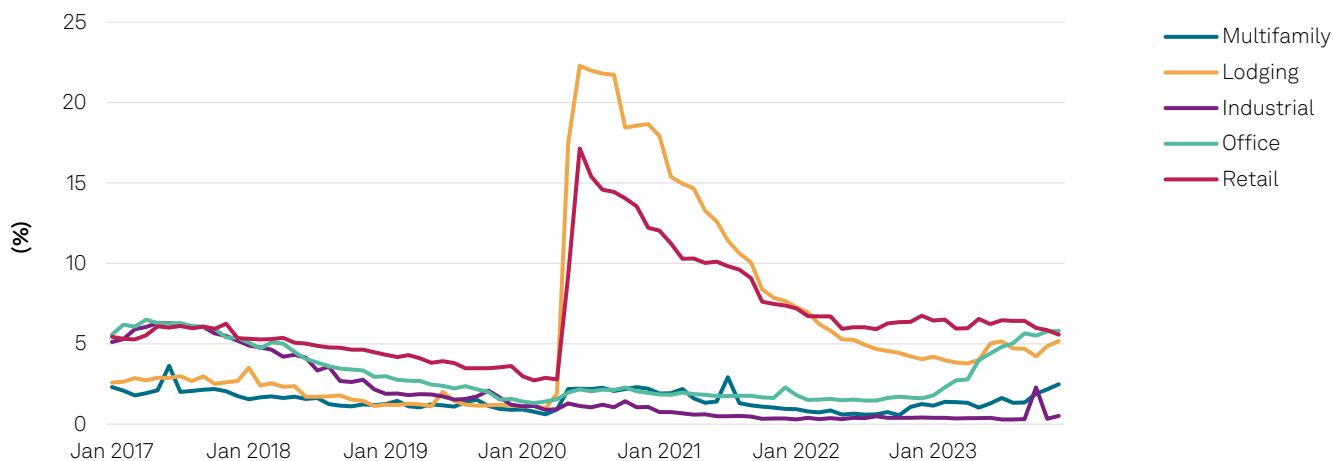
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decreased 22% from recent peaks. Office was down 35%, multifamily was down 30%, and retail malls were down 20%. While much of this decline can be attributed to higher interest/cap rates, deteriorating property sector fundamentals (operating performance) started to play a supporting role in 2023 despite a still-strong economy. Interest rates remain the single most determining factor for valuations in the year ahead--especially given we do not forecast a recession in 2024. Although there is growing consensus that rates have reached their peak for the current cycle, the view that they will likely remain elevated for much of 2024 dovetails with the commonly repeated phrase "survive till '25."

On the performance side, the overall CMBS delinquency rate was at 4.1% as of December 2023, with deteriorating but uneven credit performance by property type. While well below their 2020 peaks, lodging and retail late payment rates now sit at 4.8% and 5.8%, respectively. The rate for office increased almost every month in 2023 and now sits at 5.8%. Though considerably lower than other sectors, the rate for multifamily came under pressure in much of 2023 and now stands at 2.5%.

In addition to the delinquency rate, 6.1% of CMBS loans were also classified as being with the special servicer. Like delinquency trends, retail, office, and lodging had the highest special servicing rates at 8.7%, 8.3%, and 6.6%, respectively, followed distantly by multifamily (2.9%) and industrial (0.3%). Both delinquency and special servicing rates have generally increased since the fourth quarter of 2022, and we anticipate them continuing to grow in 2024 given the expected rate environment and sector specific credit concerns. We remain focused on multiple areas, but ratings closely tied to lodging, retail, multifamily, and office assets, especially in SASBs, remain priorities.

CMBS delinquency rates by property type



Source: Trepp.

Lodging

In the year-to-date (YTD) period ended October 2023 versus the same period in 2022, U.S. revenue per available room (RevPAR) increased 5.5% due to a 4.5% increase in average daily rate (ADR) and a marginal increase in occupancy to 64.5%. Leisure demand moderated as the voracious post-COVID-19 travel appetite subsided. However, a recovery in group business and corporate travel has helped to maintain occupancy levels. RevPAR is now 13.0% higher than it was during the same pre-pandemic period in 2019. Occupancy remains 4.5% below 2019 levels, while ADR is a whopping 18.3% higher than 2019 levels. However, ADR gains will continue to

moderate, as they have done over the past six months, if consumers pull back on the room rates they are willing to pay for lodging.

Despite the favorable metrics, RevPAR growth experienced double-digit gains in each of the first three months of 2023 due to easy comparisons to the Omicron-depressed first quarter of 2022. RevPAR gains were modest in each month since, averaging a monthly increase of only 2.0% from April through October and ranging from 3.7% (May) to 0.8% (July). That said, performance is varied, with the hardest-hit segments of the industry, urban markets, still experiencing strong RevPAR growth (11.2% YTD October 2023), while resort markets have lagged (1.9% YTD October 2023). Moreover, RevPAR gains moderating and operating expenses continuing to rise-- particularly for labor and property insurance--negatively impact net cash flow margins in many markets. Still, elevated (but declining) consumer net worth/savings, the ongoing normalization of spending patterns away from goods and into services, and pent-up group and business travel demand should continue to support hotel performance in the year ahead.

Retail

The post-pandemic retail sector's strong performance held up well in 2023 despite economic headwinds. Fueled by shoppers' continued enthusiasm for in-person, unique shopping experiences and retailers' optimism about long-term growth, tenants continue to seek high-quality store locations amid limited supply. For instance, despite major bankruptcy news from Bed Bath & Beyond, more major store openings were announced than store closings in 2023. Tenant demand for strip centers has held up in recent quarters, adding confidence that space previously occupied by Bed Bath & Beyond will be leased relatively quickly and at higher rents.

However, the macroeconomic outlook has become more uncertain, and household spending has begun to succumb to higher prices. Consumers are not feeling as optimistic about their financial prospects, with consumer sentiment sitting at or near all-time lows. Declining real income, dwindling savings, greater use of credit cards, and higher interest rates will likely continue to impact households' ability and willingness to spend in 2024, and some consumers will probably trade down to discount retailers. At the borrower level, higher interest rates will continue to challenge access to capital, even if they begin to subside later in 2024. In addition, a notable amount of subpar retail malls will continue to be burdened with maturing loans that are not refinable, leaving servicers few options aside from continuing to offer loan modifications and extensions.

Notwithstanding the current and emerging challenges, an economic slowdown should not be overly disruptive to the retail market. Corporate balance sheets in the sector are generally healthy, the e-commerce disruption seems to have peaked, and overbuilding is a remote threat. A sharp decline in leasing activity is unlikely, though demand is expected to temper in the year ahead.

Multifamily

While the sector benefited from historic price appreciation in the initial years after the onset of the pandemic, mean reversion has taken hold as the sharp rise in interest rates has applied downward pressure on valuations as borrowers are forced to adjust to costlier and less abundant capital. One of the fundamental concerns for multifamily assets involves the notion that the debt is "sized to perfection" and offers relatively little margin for error. These assets are often underwritten to a 1.25x DSC, relatively limited assumptions for vacancy/credit loss, and the expectation that rents will keep up with expenses and growing supply concerns, particularly in markets such as the southwest. Some of these concerns are not new and predate the pandemic.

While risks are present, if losses were to arise, they would, by historical standards, be notably less than what was experienced in other property sectors given the essential need for rental housing (and the presently high cost of buying). However, the aggressive lending and volume of 2021 combined with the reduced ability to raise rents, higher fixed costs--especially for property insurance--and interest rates having essentially doubled suggests continued credit stress is inevitable in 2024. That said, it remains important to note that the sector is in a comparatively favorable position relative to other sectors, as evidenced by current delinquency rates. Moreover, these issues, while concerning, may resolve themselves with time and eventual interest rate cuts in some instances.

Office

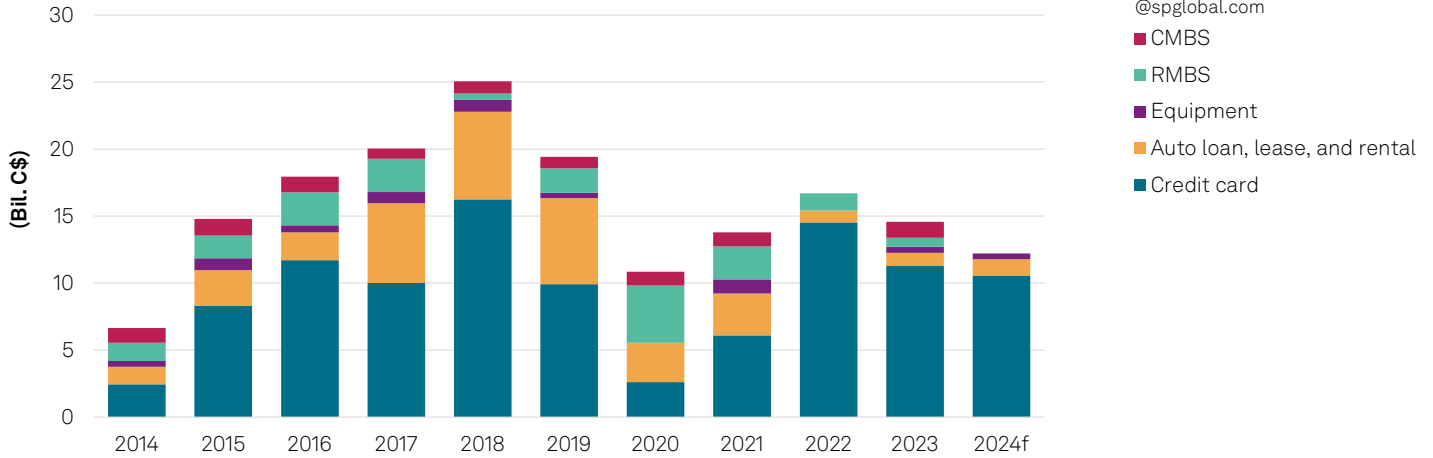
The office sector has faced significant headwinds since the start of 2020. Long lease terms masked distress initially, but demand for office space has persistently declined. Weak demand, in terms of lower asking and effective rents, and higher availability rates across most markets can be attributed to a shift to remote or hybrid work policy structures. For instance, U.S. office vacancy rates have increased steadily, to a pandemic-era high of 19.4% as of third-quarter 2023, according to Cushman & Wakefield. In New York City's three main Manhattan office markets, which collectively account for 11% of the total U.S. office market, the overall vacancy rate stood at 22.1% for the third quarter, compared to the historical average of 12.4%. On a more hopeful note, construction activity for office properties has significantly decelerated and should, in the years ahead, help manage absorption and inventory levels. However, broader economic uncertainty and the high cost of borrowing has further exacerbated issues in the sector. Historically high sublease availabilities (roughly 16.4% of office space available according to CoStar), economic uncertainties, and conflicting visions of ideal work arrangements significantly complicate the sector's ability to access capital. Overall, future office demand patterns remain deeply uncertain, and most forecast continued weakness in 2024.

Indeed, deterioration of office properties backing SASB deals has been driving many recent rating actions and we expect that trend to continue in 2024. Rating actions will continue to see variations from deal-to-deal and be dependent on several factors. These include the magnitude of changes in occupancy and the prospects for re-tenanting (recent market vacancy/subleasing trends), land value/location, and lease rollover/maturity profile, among other factors. In general, a rating committee's view of temporary versus longer-term impairment may determine how far up the stack rating actions will go and to what degree rating actions are tempered, if at all. It is also worth mentioning that we rate to timely interest and ultimate principal, and that the servicer advancing mechanism provides some support to timely interest in the speculative-grade and lower investment-grade rating categories. Also, a loan modification may not automatically trigger a downgrade, but would trigger a review, which can result in downgrades if we deem the risk profile to have changed materially since the last review or initial rating.

Canada | Structured Finance

Our 2024 outlook for Canadian ABS collateral performance remains somewhat weak, but ratings are likely to remain stable. We expect Canadian public term ABS volume to exceed C\$12 billion in 2024, driven by an estimated C\$11 billion in credit card ABS issuance and C\$1.2 billion in auto ABS issuance (see chart below). We anticipate approximately 25%-30% of Canadian credit card ABS will be cross-border issuance into the U.S. market. We forecast commercial equipment ABS volume of C\$0.5 billion, while RMBS and CMBS should see minimal issuance activity in 2024.

Canadian term ABS public issuance



As of year-end 2023. f--Forecast. Source: S&P Global Ratings.

Credit Card ABS

In 2023, credit card ABS issuance volume of about C\$11.3 billion exceeded estimated maturities of roughly C\$5 billion, driven in part by higher interest rates, which make ABS a competitive funding source relative to unsecured bank funding. Our 2024 forecast of C\$10.6 billion (net new issuance of approximately C\$5 billion) is contingent upon interest rates remaining higher for longer. Market conditions and investor preference will continue to influence U.S. cross-border volume in 2024. Receivables for the credit card trusts we track in our Canada Bankcard Credit Card Quality Index (CCQI) are generally of a higher credit quality than the broader Canada credit cards market. On average, 80% of the receivables in our index are from accounts that are at least five years old, and 75% are from accounts with credit scores of 700 and above. These strong credit metrics continue to support Canadian CCQI performance, which remained strong despite the weaker economic environment in 2023 (see chart below). In 2024, we expect collateral performance will continue to normalize and trend somewhat weaker. However, ratings will likely remain stable because our base-case and stress assumptions, which are calibrated against major economic downturns, continue to capture the expected evolving performance risks of the receivables in each credit card trust rated by S&P Global Ratings.

Sector Contacts



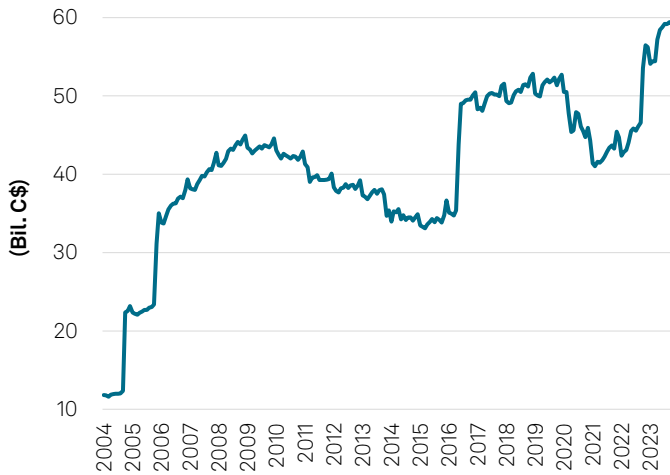
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- CMBS
- RMBS
- Equipment
- Auto loan, lease, and rental
- Credit card

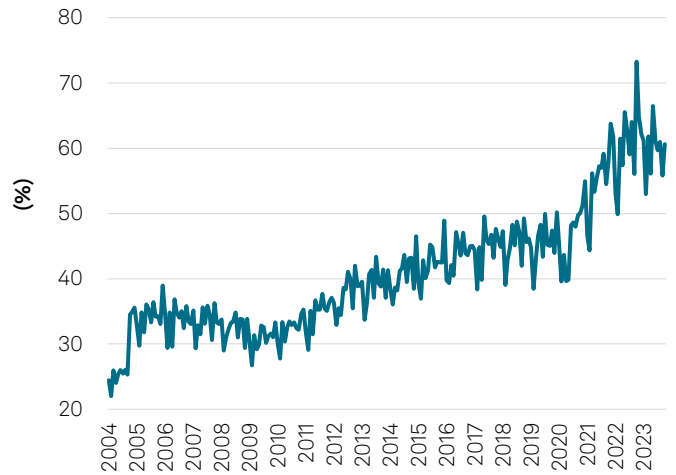
Canadian Credit Card Quality Index

Receivables outstanding



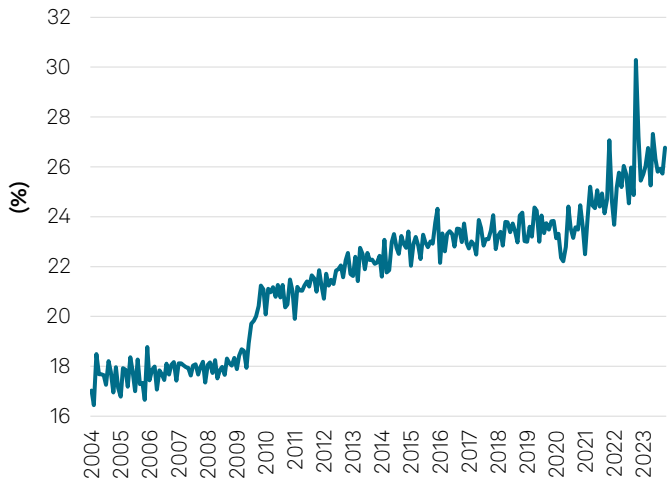
Source: S&P Global Ratings.

Payment rate



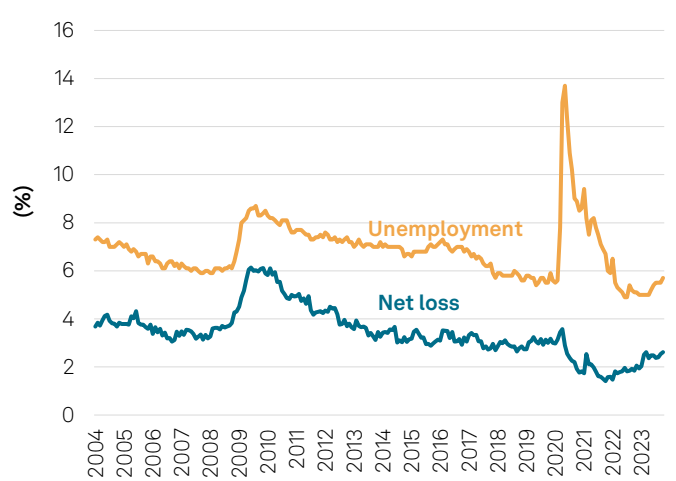
Source: S&P Global Ratings.

Yield



Source: S&P Global Ratings.

Net loss rate

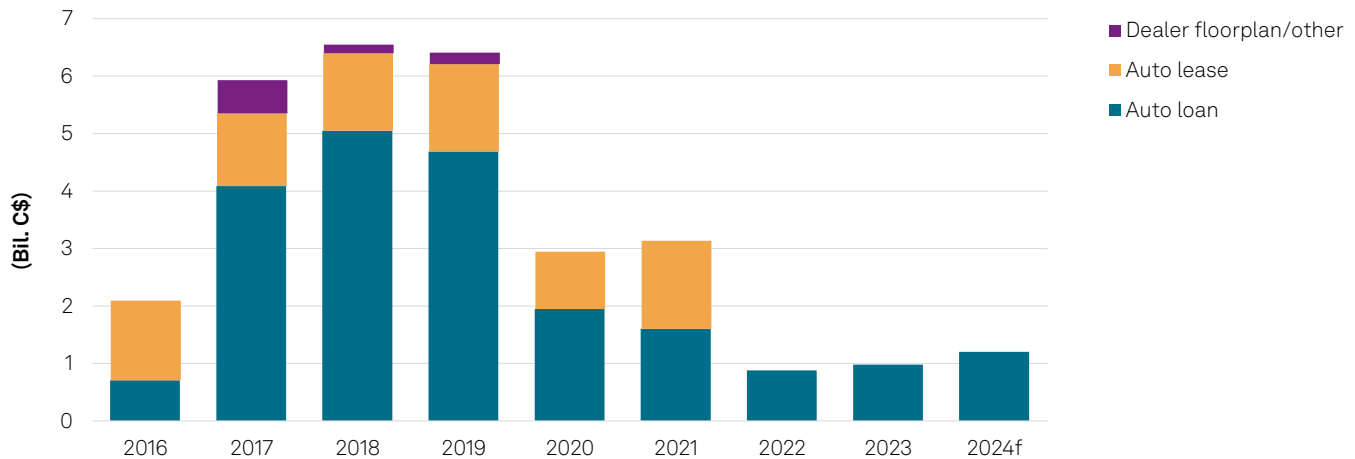


Source: S&P Global Ratings.

Auto Loan ABS

Our 2024 forecast for term auto loan ABS issuance is C\$1.2 billion (see chart below). Our expectation for increased auto loan ABS volume is predicated upon lower spread volatility in the Canadian ABS market. The normalization of vehicle wholesale prices, residual values, and labor market strength should balance out consumer weakness and allow investors to reassess their risk-return requirements and issuers to attain cost-effective funding. We estimate that 100% of 2024 auto loan ABS issuance will be in the Canadian domestic market given the exit from the auto funding business by one major bank and non-issuance from another, both of which were issuers of cross-border auto ABS.

Canadian term auto ABS public issuance

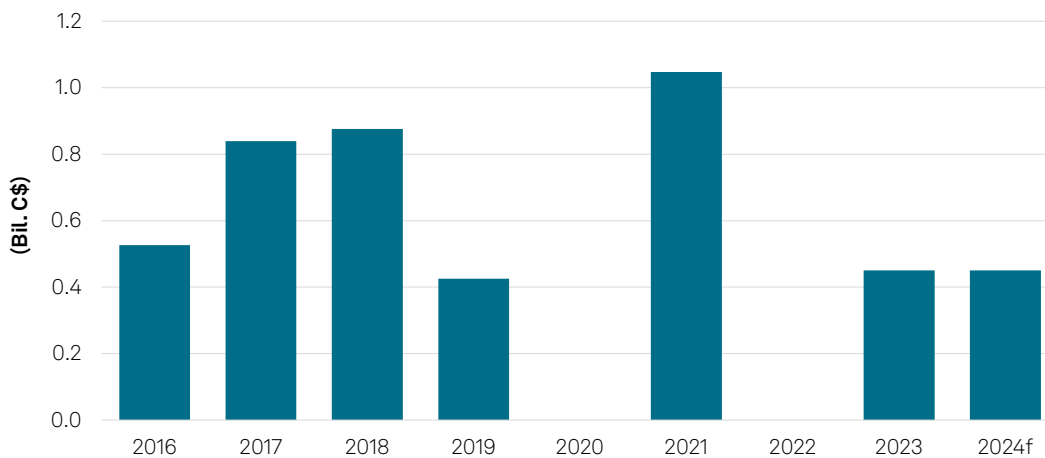


As of year-end 2023. f--Forecast. Source: S&P Global Ratings.

Commercial Farm Equipment ABS

In 2024, we anticipate roughly C\$450 million in commercial farm equipment ABS issuance, assuming issuers return to their typical issuance cadence and market spread volatility eases.

Canadian term farm equipment ABS public issuance



As of year-end 2023. f--Forecast. Source: S&P Global Ratings.

RMBS

We expect non-insured RMBS volume to be minimal in 2024. Higher interest rates, rate resets, and consumer indebtedness are weighing on the Canadian housing market. Also, investor hesitancy, coupled with these risks, will continue to dampen RMBS issuance volume. Despite a recent retreat, national home prices remain elevated. Canadian lenders' (primarily banks) capital levels and credit underwriting remain robust. Borrowers' home equity, stable debt servicing levels, savings levels, and unemployment will continue to impact collateral performance.

Europe | Structured Finance

Collateral Performance And Credit Outlook

Elevated interest rates and the high cost of living mean European structured finance performance will remain under pressure in 2024, despite some improvements in the macroeconomic backdrop.

A soft landing remains the most likely scenario for the European economy. Real incomes are beginning to rise again, thanks to slowing inflation and strong wage growth. We expect the eurozone and U.K. economies to grow by 0.8% and 0.4%, respectively, in 2024. In the eurozone, inflation should average 2.9%, while we expect wages to rise by about 4.0%. In the U.K., inflation has been persistently higher than in the eurozone, but it has been countered by higher wage growth and will likely moderate to 3.0% in 2024. Despite these positive factors, some pressure on credit performance in consumer-related securitizations will persist. While we expect central banks to cut policy rates in 2024, financing conditions will likely remain restrictive for an extended period, crystallizing a payment shock for more underlying borrowers. We expect both eurozone and U.K. unemployment rates to stay contained in 2024, averaging only 6.6% and 4.6%, respectively. Labor markets are still tight for cyclical and structural reasons, and the number of job vacancies is still high, making a sharp rise in unemployment rates unlikely for now. For the U.K. in particular, vacancies remain 40% above their long-term average, partly due to Brexit and the COVID-19 pandemic. If unemployment were to remain stable, it would bode well for structured finance ratings migration, despite high interest rates and prices. During the past 20 years, rating movements have shown a 75% negative correlation with unemployment but a limited correlation with interest rates or inflation.

For corporate-backed transactions, credit prospects will likely continue to worsen in 2024, as debt maturities see lower-rated issuers refinance at much higher rates, straining cash flows. Consumer-facing, chemicals, and capital goods sectors may be the most vulnerable. We expect the annualized default rate for European speculative-grade corporate issuers to increase moderately to 3.75% by September 2024. This is still below the most recent peak in 2021, and relatively few of our corporate ratings are on negative outlook or CreditWatch. Even the 2021 spike in default rates and corporate ratings deterioration had little effect on European CLO ratings, as collateral managers were able to mitigate credit deterioration through trading. Commercial real estate, and therefore CMBS, is also under pressure from higher interest rates, which have raised refinancing risks, although property values may have bottomed out.

Despite these pressures, the ratings trend for European structured finance has not weakened since the onset of higher inflation and the monetary policy shift that started in 2022. In 2023, we lowered fewer than 2% of our ratings on securitizations in Europe. CMBS transactions backed by office and mixed assets were most affected, but this sector constitutes a small portion of our outstanding ratings on European securitizations. Our ratings rose by an average of 0.2 notches in the 12 months ended November 2023. For most asset classes, the 12-month trailing average change in credit quality has been positive for several years, indicating aggregate upward rating movements, and even the CMBS sector saw this measure turn positive during 2023.

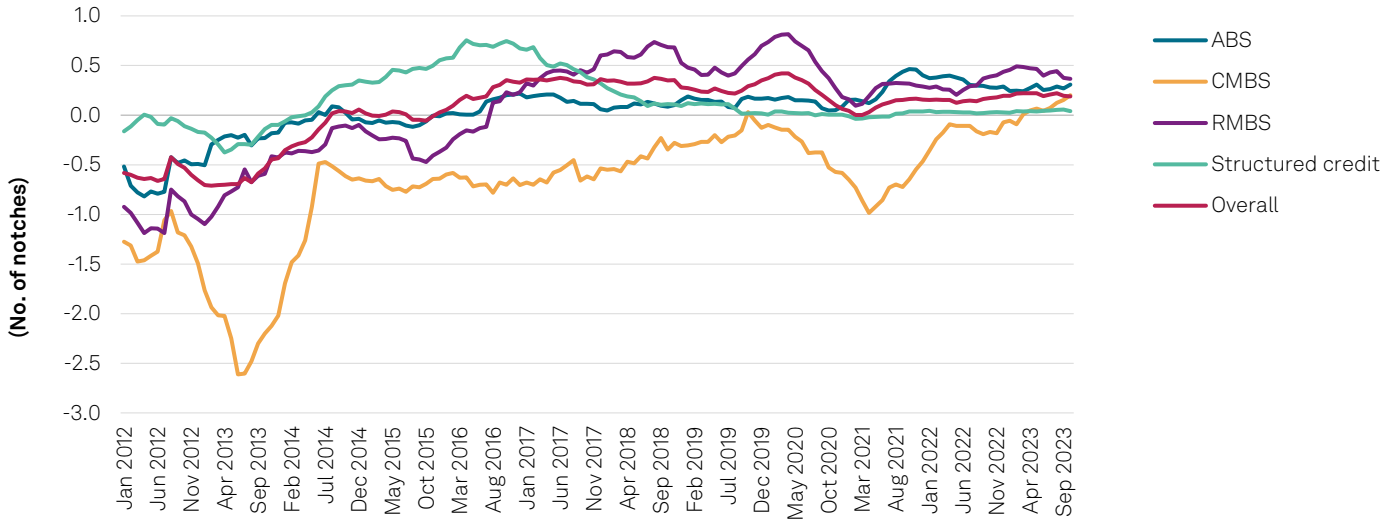
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European structured finance -- average change in credit quality

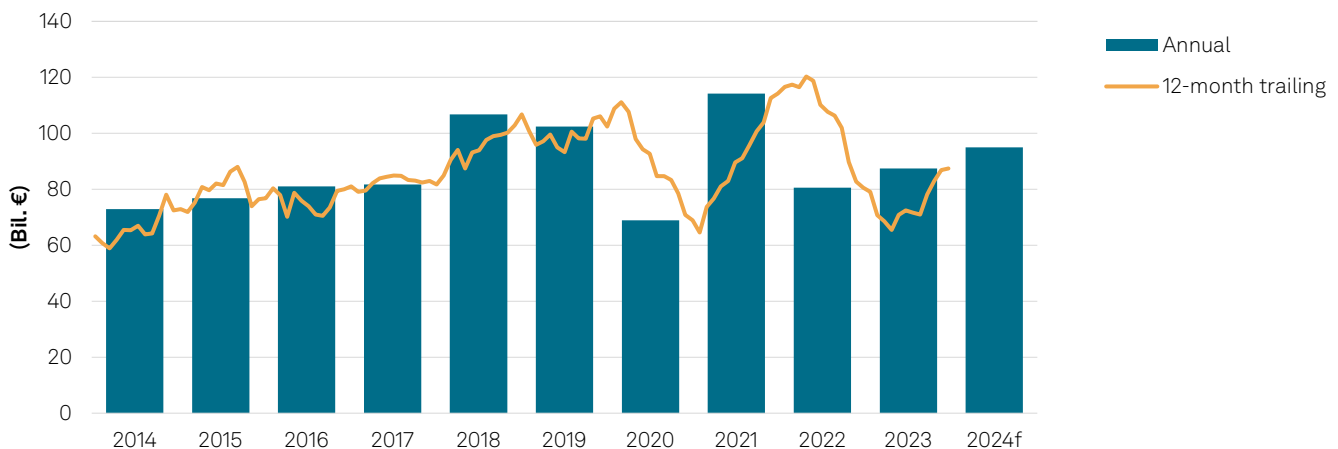


Data as of October 2023. Average change in credit quality is the average number of notches by which ratings changed over a trailing 12-month period. Ratings on securities that migrated to NR during the sample period are classified based on the rating prior to NR. NR--Not rated. Source: S&P Global Ratings.

Issuance

After a tepid start to 2023, investor-placed European securitization issuance accelerated in the second half of the year to €89 billion, up more than 10% relative to 2022 and above the annual average of the prior decade. Issuance could grow further to about €95 billion in 2024, partly due to a larger volume of legacy transactions reaching their call dates and a modest recovery in some areas of underlying credit origination, such as the auto financing that backs most ABS. However, bank-originated securitization issuance could be the most systemic source of growth in 2024, having hit a five-year high in 2023. Central bank liquidity schemes that have helped fund financial institutions for many years are in various stages of wind-down, which, together with slowing rates of deposit growth, are bringing more bank securitizers back to the market, especially in the U.K. Some nonbank originators have likely relied more heavily on warehouse funding over the past 12-24 months given recurring bouts of market volatility. Greater certainty over spreads and underlying rates could lead to more securitization exits.

European investor-placed securitization issuance



f--Forecast. Source: S&P Global Ratings.

In terms of issuance, European securitization sectors experienced mixed fortunes in 2023, as some volumes grew strongly while others declined. The two largest sectors did not contribute to growth, however, making new issuance generally more diverse. The strongest growth was in German and Italian auto ABS, with combined volumes more than doubling compared with 2022. Many other jurisdictions also saw a rise in ABS activity, including France, Ireland, the Netherlands, Spain, and Switzerland. New CLO issuance was broadly flat, while U.K. RMBS volumes declined substantially, reducing that sector's share of total issuance to less than 25%. This decline was mainly due to the lack of any scheduled refinancings for legacy collateral formerly owned by U.K. Asset Resolution and originated before the financial crisis in 2008, which have previously tended to be large. That said, we expect these refinancings will return in 2024.

Securitization issuance has historically been linked to the level of activity in the underlying lending markets. This depends on both lender appetite for risk and balance sheet expansion, as well as borrower sentiment and their willingness to take on leverage. In this regard, conditions may have begun to turn around. While activity levels in these underlying credit markets are generally still depressed by historical standards, in some areas they did not decline over the past 12 months. Leveraged corporate issuance and new car registrations saw double-digit growth, which is likely positive for CLO and auto ABS issuance. U.K. mortgage lending is still declining, but consumer confidence in both the U.K. and the EU has bounced back from the all-time lows set in 2022, likely due to moderating inflation and signs that interest rates have peaked, suggesting that borrowers are more likely to take on new credit.

Central bank liquidity schemes (which have provided credit institutions with cheap term funding) have for many years acted as a drag on potential securitization issuance. However, the return to more conventional monetary policy means that these schemes are now unwinding, raising some banks' need for new funding. In the U.K., about £150 billion in borrowings remain outstanding under the Bank of England's term funding scheme, with additional incentives for small and midsize enterprises. Banks have already been refinancing some of the scheme's four- and six-year funding ahead of scheduled maturities beginning in 2024, including through securitization issuance, although the bulk of maturities do not start until late 2025. Borrowings under the European Central Bank's equivalent targeted long-term refinancing operations (TLTROs) have now been paid down by more than 80% from the €2.2 trillion peak. In general, eurozone banks have had ample liquidity to make most of these repayments without turning to the capital markets. However, the TLTRO wind-down has likely still been a contributing factor to higher secured funding issuance from banks in 2023, which should continue as the final drawings mature through 2024.

While bank-originated securitization issuance stagnated over the past decade, 2023 may have heralded the beginning of a recovery, with bank originators accounting for 30% of total volumes-- the highest share in five years. Alongside the wind-down in central bank schemes, slowing deposit growth may also be driving banks' wholesale funding issuance. While financial institutions' deposit funding jumped sharply higher during the COVID-19 pandemic, the systemwide rates of deposit growth in both the eurozone and the U.K. have been trending lower for three years, initially due to post-pandemic normalization and later likely due to the cost-of-living squeeze. Recently, deposit growth rates entered negative territory, reaching at least a 10-year low. All else being equal, this could support bank-originated securitization issuance, depending on the relative costs of funding alternatives.

Latin America | Structured Finance

Increased Issuance Amid Low Economic Growth

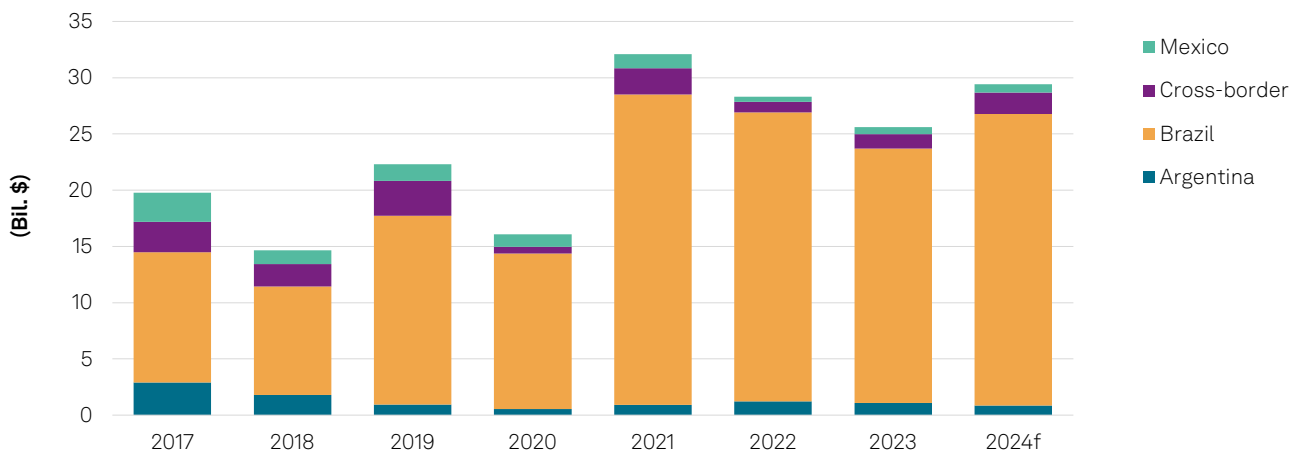
- We expect new issuances in the region to increase 15% relative to 2023.
- Brazil will continue to account for the bulk of the issuances.
- Ratings performance should remain stable, despite the challenging economic environment in the region.

We expect Latin American structured finance issuance to increase by about 15% in 2024, climbing to \$29.4 billion from \$25.6 billion. Issuance volume in the region was relatively weak in 2023, but strong economic growth in Brazil and increased activity in the cross-border market propped up total issuance. Although we anticipate interest rates cuts across Latin America, borrowing costs will remain high by historical standards. We expect the region's economic growth will slow to 1.2% in 2024.

In Brazil, strong agricultural production and higher household spending should support the ratings and collateral performance of transactions backed by trade receivables, consumer credit, and residential financings. These sectors should continue to account for the bulk of issuance in the region. We now expect the Brazilian economy to expand by 1.5% next year compared to 1.2% in 2023, driven by continued, albeit diminishing, fiscal support. Lower domestic interest rates will bolster a recovery in investment, especially toward the second half of 2024.

Mexican structured finance issuance remains subdued across all asset classes. We continue to believe that activity could pick up in the coming months as companies plan to secure funding ahead of the presidential election. In addition, capital expenditures associated with nearshoring could also be funded via the capital markets, particularly investments in equipment and real estate. Ratings performance remains solid amid stable collateral performance. Strong consumption (helped by robust remittances), resilient manufacturing output, and a sharp uptick in public nonresidential investment continue to drive economic growth in Mexico. We estimate Mexico's economy will expand by 1.8% in 2024.

Latin America market-wide issuance



f--Forecast. Source: S&P Global Ratings.

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Global Structured Finance 2024 Outlook

In Argentina, the trajectory of securitization activity hinges primarily on the evolution of key macroeconomic variables. To the extent that the new administration successfully steers toward a more stable environment and addresses systemic macroeconomic imbalances, longer-term stability may be accompanied by more diversified, long-term financing that could include mortgages and other types of secured loans. We currently expect Argentina's economy will shrink by 1.5% in 2024.

Funding remains expensive in the cross-border market, but securitization should continue to help originators reduce the risk premiums associated with operating and construction risks in the infrastructure space through the issuance of repacked securities. Non-financial future flows offer Latin American commodity producers and other originators an alternative to access lower-cost financing.

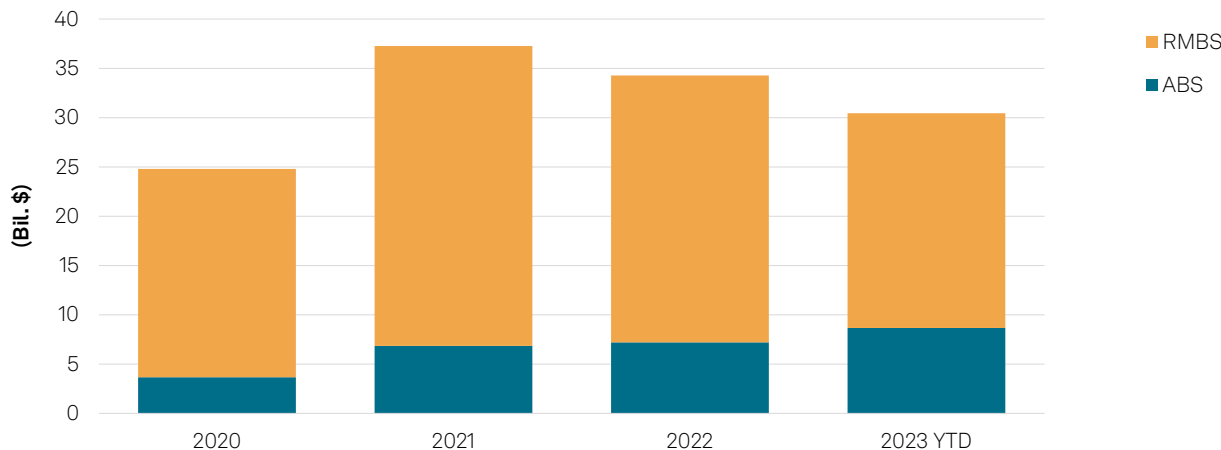
Australia | Structured Finance

Issuance

Australian structured finance new issuance finished in a strong position in 2023, despite macroeconomic headwinds. Total structured finance new issuance reached \$31 billion as of October 2023 and is likely to exceed 2022 levels--an unexpected result given monetary policy tightening (see chart below). Issuance was buoyed by sustained global and domestic interest, a reflection of the sectors' longstanding relative value. While the bulk of new issuance was in the RMBS sector, ABS issuance gathered momentum amid structural shifts in the auto lending space and the withdrawal of large banks from auto financing. This has created a unique opportunity for nonbanks to fill the void, resulting in several nonbank auto ABS issuers coming to the market in 2023. Auto ABS issuance has come from both new and established nonbanks, which are pivoting towards new lending segments to expand and diversify their lending activity. RMBS issuance held steady in 2023, despite over 400 basis points of interest rate increases and a softening in the economy. Strong collateral performance, buttressed by low unemployment, healthy household savings, and rebounding property prices, renewed confidence in the sector's outlook, resulting in spread contraction. Unsecured consumer lending, a smaller segment of the market, also marked its presence. Given the higher credit risk associated with this type of lending, we expect new issuance for this burgeoning asset class to gather momentum after the cash rate peaks and is on its way down.

We expect new issuance to increase by around 5% in 2024. While "higher-for-longer" interest rates will weigh on affordability, low unemployment and a broadly stable economic outlook will support mortgage lending, particularly given the tight rental market. These factors, combined with structural shifts in the auto sector, are likely to spur structured finance new issuance in 2024. Sustained issuance will also be underpinned by the predominance of nonbank originators in this market, and their reliance on securitization.

Australian structured finance new issuance



As of October 2023. Numbers are based on total market issuance. ABS--Asset-backed securities. RMBS--Residential mortgage-backed securities. YTD--Year to date. Sources: SDC/Dealogic, S&P Global Ratings.

Collateral Performance

Collateral performance across asset classes has demonstrated resilience in 2023, with low unemployment tempering arrears and defaults. Many households have also benefited from a

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Global Structured Finance 2024 Outlook

build-up in savings. Across the RMBS sector, prime arrears have increased from historic lows and are hovering around long-term averages. Nonconforming arrears have experienced more pronounced increases of varying magnitudes across transactions, but strong credit support build-up and robust structures have kept ratings stable. Losses have remained low given the growth in property prices and low exposure to high LTV ratio loans. While the Australian RMBS sector has low exposure to fixed-rate loans, it has been indirectly affected by the conversion of cheap fixed-rate loans underwritten during the COVID-19 pandemic to higher variable rate loans through refinancing activity. Major banks have benefitted from the uptick in refinancings-- prepayment rates for nonbank transactions climbed well above long-term averages over the past 18 months because borrowers refinanced their mortgages with larger bank lenders. We expect increased refinancing activity to settle in 2024, and we anticipate prepayment rates will decrease towards long-term averages. Auto ABS has been insulated from interest rate hikes by the predominance of fixed-rate loan contracts, but general cost of living pressures have weighed on household finances, putting mild pressure on arrears. While a higher for longer interest rate environment and cost of living pressures will weigh on household budgets as savings are drawn down, our expectation of rising, albeit low unemployment, underpins our stable outlook for the sector.

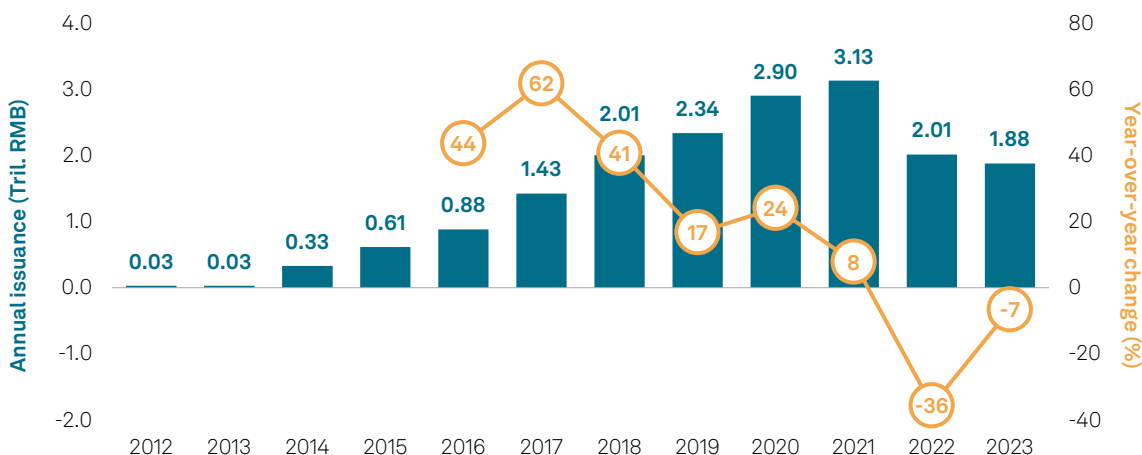
China | Structured Finance

Issuance

We expect Chinese structured finance issuance of 1.88 trillion Chinese Renminbi (RMB) (U.S.\$ 264 billion) in 2024, which is flat when compared to 2023 issuance volume. RMBS issuance will probably remain muted in 2024 with some intermittent issuances, subject to developments in the property market and banks' mortgage loan origination trajectory and regulatory stance. We forecast flat-to-tepid growth in auto ABS, reflecting our view on the growth of light vehicle sales in 2024 and the auto loan penetration rate.

Despite the recent slowdown in overall issuance, some sectors (such as consumer loan ABS and micro-and-small enterprise loan ABS under China's credit ABS scheme) saw burgeoning issuance momentum in 2023 and are worth watching closely in the coming year.

Chinese securitization issuance



Sources: Chinabond, WIND, S&P Global Ratings.

Collateral Performance

We expect the credit quality of our rated auto ABS transactions to remain solid in 2024 based on the economic recovery in China. Nonetheless, delinquency rates may diverge across transactions depending on the loan features within collateral pools.

The delinquency rates of our rated RMBS will likely stay elevated in 2024. Although the effect of the COVID-19 pandemic has gradually diminished, China's property market remains sluggish, and relevant policy support continues to affect mortgage performance. Overall delinquency rates ticked up in September and October 2023 due to large prepayments that shrunk underlying pool balances significantly.

S&P Global Ratings assigned the first 'AAA (sf)' rating to a Chinese consumer loan ABS transaction in July 2023 and the second one at year-end 2023. The rated transactions' asset performances, as measured by various delinquency rates, have maintained stability since the deals closed. We expect stable performance to continue alongside China's economic recovery, with the unemployment rate falling to our 4.9% forecast in 2024 from 5.2% in 2023.

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Japan | Structured Finance

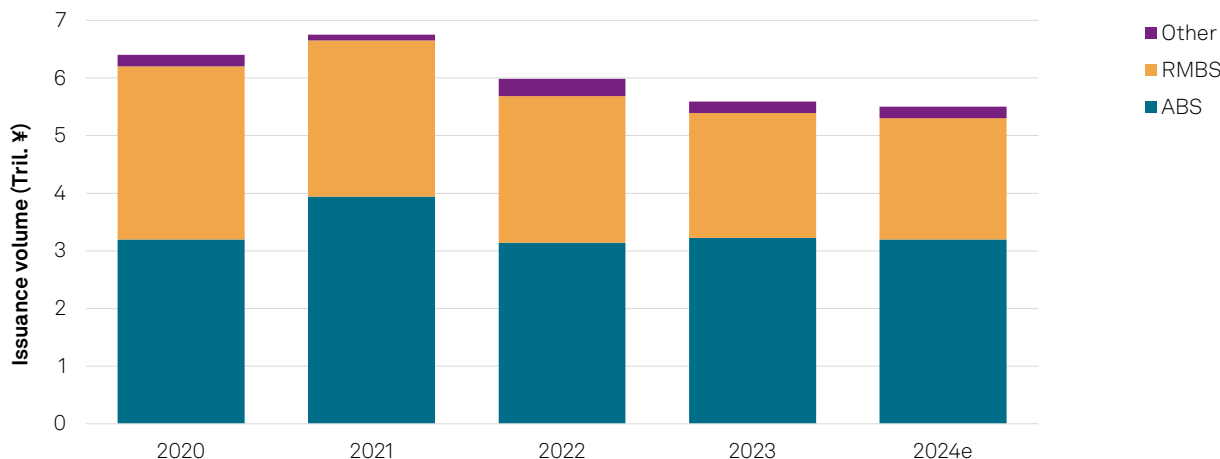
Issuance

We expect the 2024 issuance numbers to be consistent with those of 2023, although total volume could be down as much as 5%. In 2023, Japanese structured finance issuance was roughly ¥6 trillion, led by the ABS and RMBS asset groups.

Interest rates on fixed-rate mortgages increased following the Bank of Japan monetary policy revisions in 2023. Meanwhile, interest rates on floating-rate mortgage loans remained low. Although many loans backing Japanese RMBS transactions are fixed-rate, the widening fixed-/floating-rate gap resulted in a significant increase in the relative number of floating-rate mortgages, which in turn led to a reduction in RMBS issuance. In contrast, issuance of ABS transactions (backed primarily by auto and other consumer loans) was stable year-over-year.

We expect the interest rate differential between fixed- and floating-rate mortgages will persist in 2024. Therefore, it is possible that there will be an increase in RMBS transactions that are backed by floating-rate loans, which could limit the decrease in the RMBS issuance. We expect the 2024 issuance of ABS transactions to be at a similar level to that of 2023.

Japanese securitization issuance



RMBS--Residential mortgage-backed securities. ABS--Asset-backed securities. e--Estimate. Source: S&P Global Ratings.

Collateral Performance

The performance of consumer loans was stable in 2023. While many borrowers were under pressure because wages failed to keep pace with inflation, a strong labor market underpinned performance, with the unemployment rate in the 2.0% range.

According to our November 2023 economic forecast, real GDP growth should remain at roughly 1.0% through 2026. Meanwhile, we expect the unemployment rate to remain near 2.0%, which should underpin the performance of consumer loans in 2024.

The Japanese policy rate is expected to rise only about 0.5% through 2026. Thus, we do not believe interest rates on floating-rate loans will rise significantly in 2024, limiting the likelihood of performance deterioration that could come about due to rising monthly payments. We expect the performance of loans backing rated Japanese securitizations to remain generally stable in 2024.

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