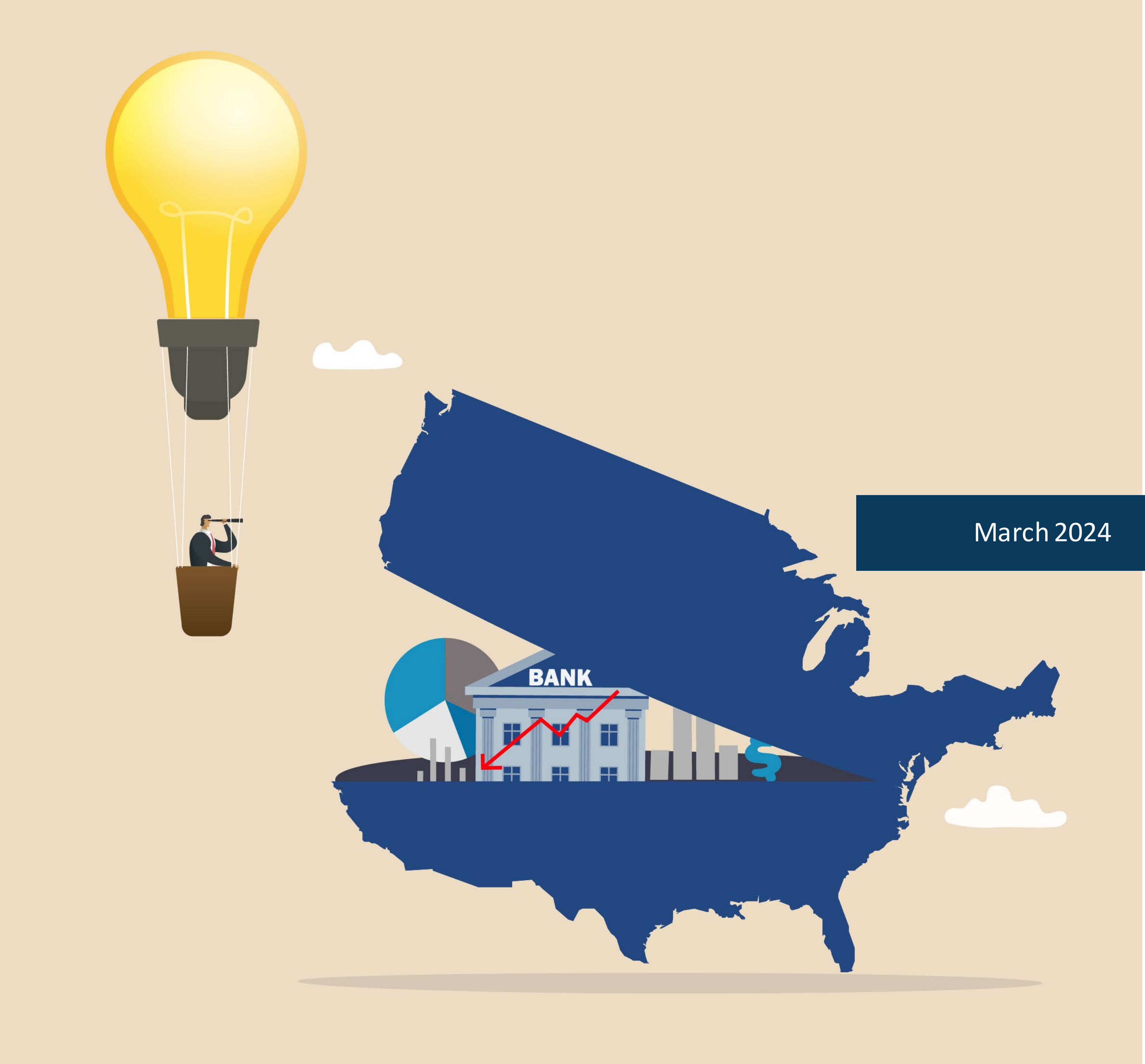


March 2024

ASSET-BASED CREDIT IN 2024: THE FUNDAMENTAL STORY

Uncovering the Collateral Fundamentals of the Bank De-Risking Opportunity in Specialty Private Credit

TPG

EXECUTIVE SUMMARY

We've previously established that banks' need to de-risk can benefit investors in specialty private credit, though it is important to consider what is spurring the de-risking trend, what types of non-corporate credit banks will be most focused on offloading, and the anticipated sustainability of the opportunity set at hand.

In this paper – which is a continuation of our *Asset-Based Credit: The Post-Bank Era* series – we delve into the drivers of bank de-risking and why we expect this trend will persist. Additionally, we analyze the three primary areas in which banks will likely seek to de-risk – which include commercial real estate debt, residential real estate debt, and consumer debt– and touch on why specialized infrastructure and a wealth of experience underwriting the aforementioned types of assets will be paramount when it comes to managers' respective abilities to successfully execute on opportunities in this market.

For a primer on how current dynamics in the U.S. banking sector are impacting the market opportunity in the specialty or asset-based private credit space, please see our previous paper, "The Big Opportunity in Bank De-Risking." For a deeper dive on the merits of and implementation considerations for adding specialty private credit to investment portfolios, check out our initial report in this series, "Find the Gap: The Case for Specialty Private Credit."

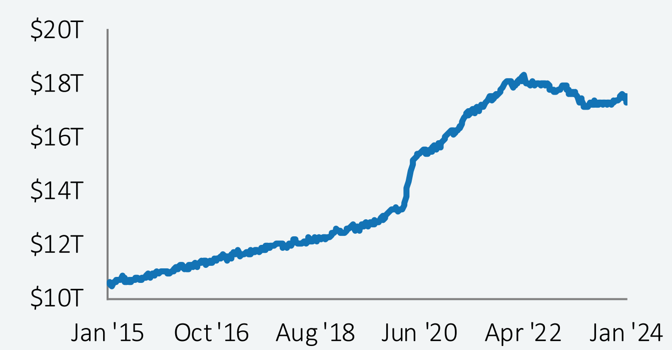
U.S. BANKS: WHAT HAPPENED? AND WHERE ARE WE GOING?

With five U.S. bank failures, 2023 proved to be a tough year for the banking industry. The failures were a result of the most rapid rise in the federal funds rate in 40 years, which caused a shock to bank balance sheets.

2023: How Did We Get There?

As reflected in Figure 1, bank deposits grew 38% – or more than $5 trillion – from 2020 to 2022, and loan demand from consumers and corporations alike stagnated due to substantial government stimulus during that period. Against that backdrop, banks were ultimately forced to invest deposits into securities.

Figure 1: Total Bank Deposits



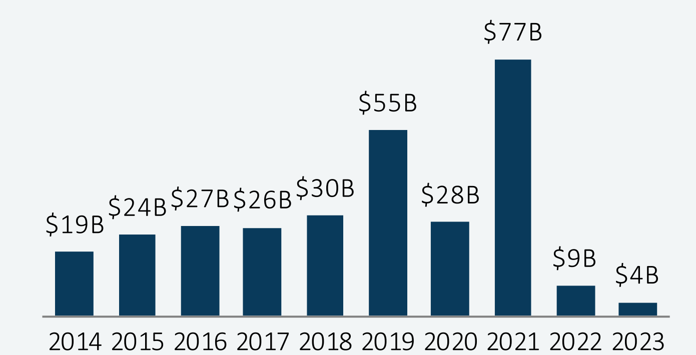
Source: Federal Reserve as of February 2024

With the increase in the federal funds rate, deposits began to leave the banking system, and the increase in benchmark rates eroded the mark-to-market valuations of loans and securities on bank balance sheets. As a result, banks with outsized interest rate risk and high levels of uninsured deposits, alongside those with idiosyncratic business models, were left exposed to large unrealized securities losses and rapidly shrinking deposits. Adding fuel to the fire, technological changes – such as mobile banking – allowed for quicker deposit withdrawals; for example, Silicon Valley Bank (SVB) saw approximately $42 billion of deposit withdrawals in one business day – an astounding $1 million of withdrawals per second.[1]

Looking Ahead: No Relief in Sight

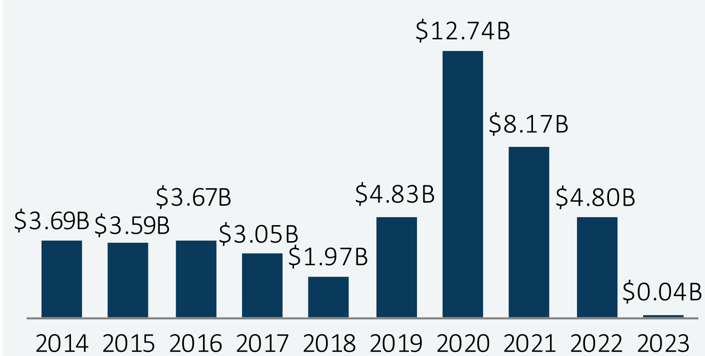
Looking ahead, we expect many of these banking system-related pressures to persist. Although deposit flight has stabilized, funding costs remain high and bank securities and loan books remain underwater, as illustrated by accumulated other comprehensive income (AOCI) on bank balance sheets. Furthermore, loan growth remains weak, and credit losses are rising through pre-pandemic levels. As a result, bank M&A and capital issuance levels remain stunted (Figure 2 & Figure 3).

Figure 2: Bank M&A Volume by Year



Source: S&P Capital IQ as of December 2023

Figure 3: Community & Small Regional Bank Debt Issuance



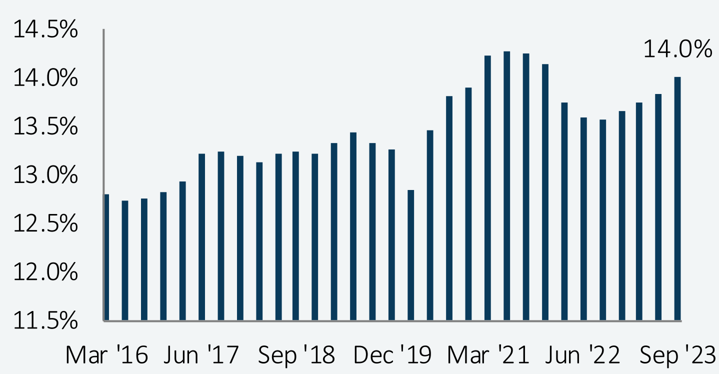
Source: Piper Sandler as of December 2023

There are also a number of factors that we expect will put further stress on bank funding. First, the Fed's Bank Term Funding Program (BTFP) expired in mid-March. Additionally, the Federal Housing Finance Agency (FHFA) – which regulates the Federal Home Loan Banks (FHLBs) – issued plans to make delivering funding to banks more challenging and restrictive. Finally, several new regulations were proposed in the wake of the large bank failures in March 2023, many of which are already in place or slated to come into effect over the coming years. For an outline of these regulatory changes, see Appendix A.

On the Plus Side…

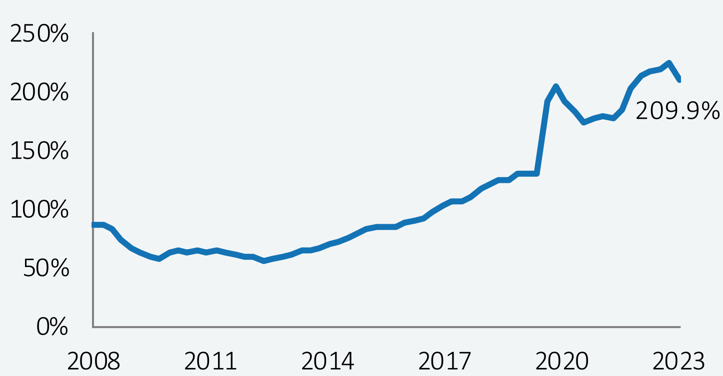
While we believe the aforementioned pressures will be meaningfully impactful, it is important to remember: **This is an earnings issue for U.S. banks, not a credit or existential threat like the global financial crisis (GFC). Additionally, banks generally entered this period of stress from a position of strength, with robust capital levels (Figure 4).**

Figure 4: Tier 1 Risk-Based Capital Ratio



Source: FDIC as of September 2023

Figure 5: Reserve Coverage Ratio



Source: FDIC as of September 2023

Industry-wide net interest margins (NIM) have remained robust – ending the third quarter of 2023 at 330 basis points, above the 2015-2019 pre-pandemic average of 325 basis points – and banks have been refilling their books with loans at current yields while older low-rate loans melt off or, in the case of floating-rate loans, adjust. While loan growth has fallen slightly, it remains positive and has been showing signs of stabilization. Deposits have also stabilized after falling for six consecutive quarters, though one must be mindful of the seasonality and costs of these deposits.

It is also important to consider that banks have recently been selling assets to reload their earnings power, and those considered "problem banks" have generally either bolstered their balance sheets or merged to form stronger institutions.

Finally, the adoption of the current expected credit losses (CECL) methodology for credit loss reserving has effectively prevented spiraling credit provisions from occurring as delinquencies and charge-offs increase. The CECL standard has ensured there was a floor on loss reserves, even as credit losses fell to very low levels; as reflected in Figure 5, the ratio of loss reserves to noncurrent loans – known as the reserve coverage ratio – has reached record-high levels.

> ***Against this backdrop, in 2024, we believe banks will need to take decisive action in response to these earnings pressures and regulatory changes, creating a big opportunity for investors.***

WHERE BANKS WILL SEEK TO DE-RISK: THREE KEY AREAS

In the previous paper in our *Asset-Based Credit: The Post-Bank Era* series, "The Big Opportunity in Bank De-Risking," we outlined the various de-risking methods banks can pursue and the main ways in which equipped private credit managers can seek to capitalize on the resulting market opportunity. Herein, we will explore the three primary areas banks will focus on as they seek to de-risk – commercial real estate debt, residential real estate debt, and consumer debt – and discuss some of the important fundamentals underlying those types of non-corporate credit.

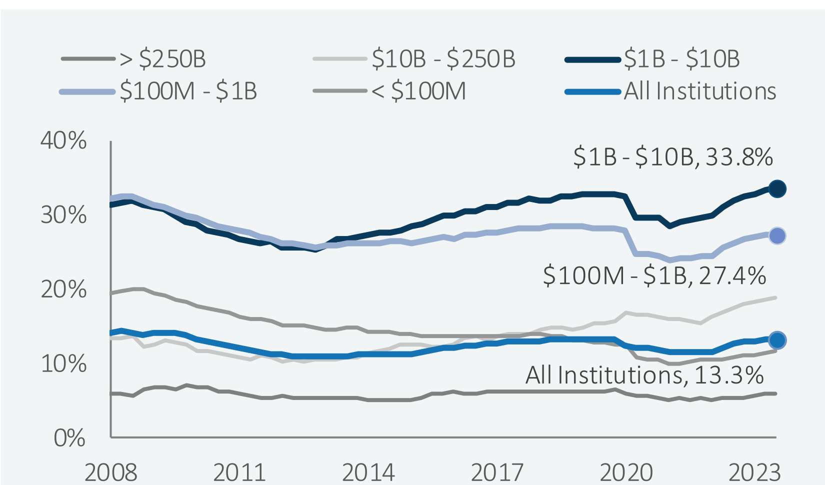
COMMERCIAL REAL ESTATE DEBT: BANK SALES & "SASB" IN FOCUS

In our view, resolving banks' real estate exposure will be a focus for bank management teams and regulators alike in the coming years given the uptick in underwater appraisals and other weaker fundamentals.

> ***As the market thaws in 2024, we expect banks to increasingly choose loan sales as a tool to balance their capital needs. Loan sales present opportunities to pick up distressed assets at attractive prices, and TPG Angelo Gordon is well-positioned with the capital and real estate expertise to quickly analyze and transact on these offerings.***

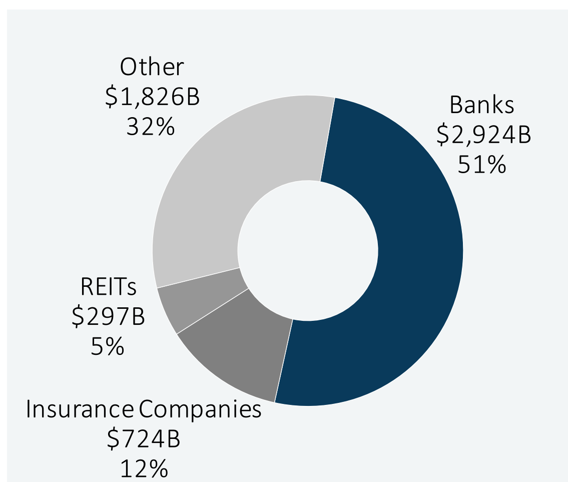
The commercial real estate (CRE) sector entered 2023 in a weak position, as concerns about office occupancy and financing conditions were growing, but a difficult year for banks made the CRE environment worse. Following the failures of SVB and Signature Bank, the market's focus understandably landed on regional banks and their CRE allocations. FDIC data shows that, in aggregate, banks smaller than $10 billion in assets have more than 30% of their assets in CRE loans, as compared to approximately 13% for all institutions (Figure 6). Additionally, banks are by far the largest lender to the CRE community, collectively holding $2.9 trillion or 51% of all commercial mortgages as of the end of June 2023 (Figure 7). Banks' significant exposure to the CRE sector at a time of weakness for borrowers has put an uncomfortable spotlight on CRE valuations, but low transaction volumes have resulted in a lack of price discovery across the market. With this in mind, banks are motivated to get rid of problematic loans, particularly given the regulatory capital outlook.

Figure 6: CRE Loans as a Percentage of Total Assets



Source: FDIC as of September 2023

Figure 7: CRE Holdings by Institution Type



Source: Green Street as of June 2023

Looking ahead in 2024, we expect CRE delinquencies to continue to rise. Fundamentals remain challenged across properties, primarily driven by new office defaults, which have picked up as net operating income (NOI) growth has slowed. The increased prevalence of flexible working arrangements has weakened demand for office properties, and occupants are increasingly seeking modern, well-located properties with a full suite of amenities. At the same time, lenders too are becoming increasingly selective – spurred, in large part, by the previously described outlook for the banking sector.

While the confluence of these pressures has created broad price discounts across the CRE complex, our focus in this paper is on the office sector, as we believe there will be significant opportunities to pick up discounted credits backed by strong, high-quality assets. This most frequently occurs through direct loan sales and in single-asset/single-borrower, or "SASB," CMBS transactions.

Office: Deep Discounts With Better Visibility Ahead

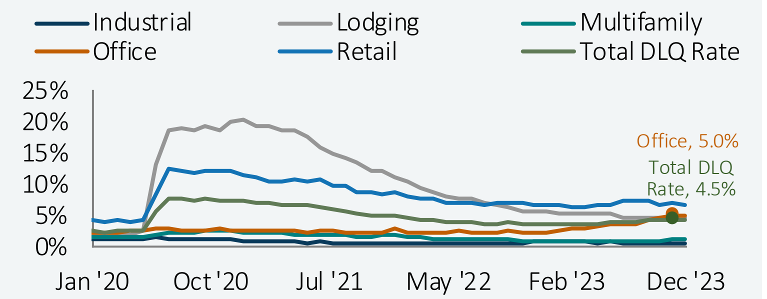
Borrowers and lenders spent most of 2021 and 2022 working through loan challenges following the pandemic. Fast forward to December 2023, and the delinquency rate for conduit office properties has increased to 5% – up 273 basis points since the end of 2022 (Figure 8).

The NOI growth that propelled properties back to current pay in 2022 weakened in 2023, driving more borrowers into delinquency. Greater dispersion in performance by property type has resulted in large differences in prevailing cap rates. This is demonstrated in Figure 9, for example, where we see that the NAREIT implied office cap rate widened by 210 basis points from the first quarter of 2020 through the end of the third quarter of 2023 – double the aggregate measure's rise of 105 basis points over the same period.

As occupancy trends stabilize in major metros areas, weak performance has started to crystalize into losses, with some notable Class A office properties selling at deep discounts. Consider that, in Q2 2023, a prime office building in San Francisco sold for $61 million – a fraction of the $300 million the building was estimated to be worth in 2019. Given this and other similar examples, the mood around CRE valuations is challenged; while there have only been a few drastic re-pricings like the aforementioned example thus far, others will inevitably emerge as loans mature and are modified or sold, forcing a crystallization. This tone is reflected in the Fed's most recent Senior Loan Officer Opinion Survey, which indicated there has been a sharp rise in the percentage of lenders tightening their standards for commercial properties since the first quarter of 2022 (Figure 10).

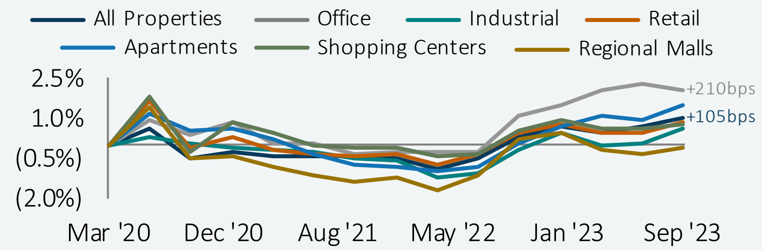
In 2024, we generally expect office delinquencies to increase as commodity office product struggles to attract and keep tenants.

Figure 8: Conduit DQ60+ Rate by Property Type



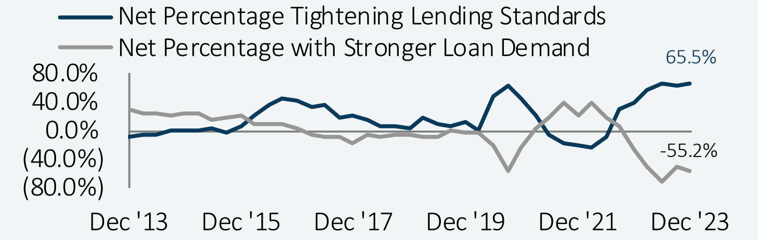
Source: J.P. Morgan CMBS Credit Monthly as of December 2023

Figure 9: NAREIT Cap Rate Index Changes Since Q1 2020



Source: NAREIT as of September 2023

Figure 10: Senior Loan Officer Opinion Survey

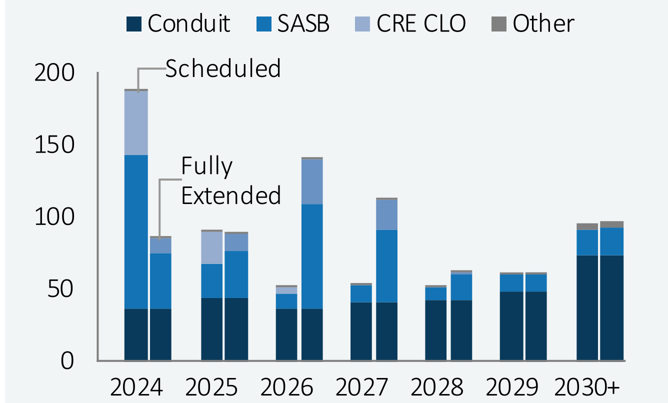


Source: Federal Reserve as of November 2023

SASB: The Strong Will Survive, With Favorable Upside

There will still be winners, however. We expect strong assets with solid cash flows and experienced sponsors to fall into that camp, and those assets will ultimately face lower barriers to refinancing. SASB CMBS – a type of commercial mortgage-backed security for which the underlying collateral is generally either a single CRE asset or borrower – transactions have involved several such assets with attractive risk/reward profiles, including Class A or trophy office buildings. This is noteworthy, as an anticipated $100+ billion of SASB CMBS are set to mature in 2024 and will face financing decisions over the coming year.[2] While many of these deals will be extended – pushing the maturity wall (Figure 11) out further into 2026 and 2027 – we continue to identify assets that have strong fundamentals and we believe are mispriced going into their maturity date.

Figure 11: CMBS Maturity Wall: Scheduled vs. Fully Extended



Source: J.P. Morgan 2024 Securitized Products Outlook as of November 2023

> ***Weak market sentiment has created opportunities to pick up well-enhanced, discounted bonds that are backed by strong properties and offer outsized yields.***

A Prime SASB Example

One illustrative example of a SASB CMBS like those described in the previous section of this report involves a large Class A office building in midtown Manhattan. The building has strong fundamentals: It was 96% occupied as of the third quarter of 2023, has multiple blue chip tenants, and is owned by two well known, large cap commercial real estate companies. Originally appraised at $1.85 billion at SASB deal issuance in 2017, the property's 2023 NOI of approximately $82 million per year was 4.1% above the deal's original underwriting, as shown in Figure 12. As of February 2024, the borrower is in discussions with the special servicer seeking to modify the loan and extend its maturity date, subject to equity contributions.

The Class A tranche of this SASB CMBS has maintained its AAA rating from both of its original rating agencies, and we believe its stressed LTV – which includes higher cap and Treasury rates and a 26% lower valuation – is still a comfortable 37%. As this loan approaches its maturity date in September 2024, we believe the Class A tranche can earn a low double-digit yield to maturity given its dislocated pricing in the secondary CMBS market. However, our base case is not an expected payment at maturity, but for the loan to be refinanced and for the tranche to be paid off up to 24 months following the scheduled maturity. Even in those scenarios, the tranche still earns a spread in the low-200 to high-200-basis-point range – for a AAA-rated asset. Spreads for other similarly rated securitized assets are approximately 50 to 170 basis points, and average spreads for AAA-rated corporate credits are 90 to 125 basis points, further underscoring the relative value of the SASB CMBS office sector.

Figure 12: SASB Asset Valuation Example: Class A New York City Office Building

	Under-written	Most Recent	
NOI	$79.2M	$82M	*+41%*
Appraisal Value	$1,850M	$1,374M	*-25.8%*
Valuation Date	8/1/17	3/1/24	
Cap Rate (Underwritten / Assumed)	4.45%	6.00%	*+155bps*
Class A LTC	27.5%	37.1%	

Sources: Intex and TPG Angelo Gordon as of March 2024

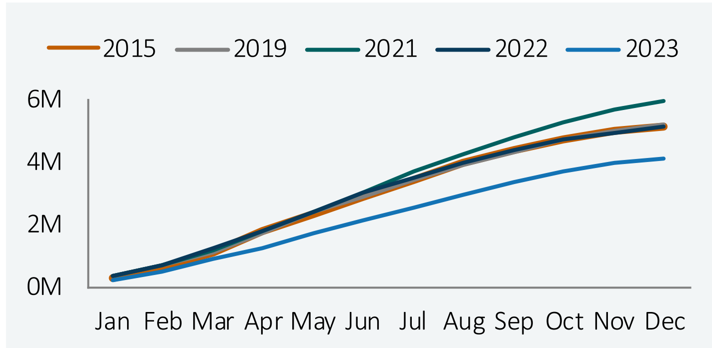
Class A Return Profile	
Price	$97.5
Class Size	$509.1M

	Maturity	Maturity +12mo.	Maturity +24mo.
Yield	11.5%	7.7%	6.6%
Spread	618	291	214
WAL	0.53	1.53	2.53

RESIDENTIAL REAL ESTATE DEBT: STRONG HOUSING TECHNICALS PERSIST, BUT WATCH T&I

Not surprisingly, banks are also likely to shed some of their U.S. residential housing-related exposures. **Post-GFC, underwriting of housing has been materially more conservative, and existing home prices have experienced tremendous growth following the pandemic**. Despite record-low affordability due to higher prevailing interest rates, the U.S. housing market again defied expectations in 2023. That performance – which was largely attributed to the "lock-in effect" from ever fewer new listings (Figure 13) – has been well publicized.

Figure 13: Cumulative New Listings by Year



Sources: Bloomberg and NAR as of December 2023

How We Are Approaching 2024

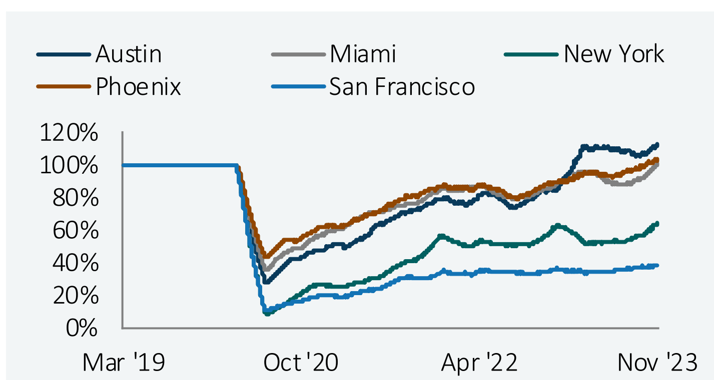
As we wrote in last year's outlook, the TPG Angelo Gordon Structured Credit & Specialty Finance team's underwriting parameters for 2024 have included a peak-to-trough home price decline of 20%, followed by a gradual recovery to a long-term home price appreciation (HPA) rate of +3%. Underwriting and forecasting have distinct objectives, and our underwritten HPA is conservative by design. With that in mind, we continue to underwrite mortgage credit assets with the assumption that U.S. home prices will fall 10% over the next 12 to 18 months, though we expect actual U.S. HPA to hover in the positive low single digits. Although our underwriting also includes a rise in delinquency rates, **we ultimately expect limited foreclosure activity and liquidations because defaulting would cause homeowners to risk losing their significant home equity. Instead, mortgages will move up in the payment-priority hierarchy, and distressed borrowers will be more likely to sell their homes in order to monetize their equity, rather than default.**

Location Matters

Not all housing locations fare the same, however. With this in mind, our HPA model is applied at the local level, as we eschew underwriting with national or state-level models. Migratory patterns, particularly following the pandemic, have impacted local home price conditions as well as homebuilding activity.

In this vein, we have been monitoring downtown foot traffic for cities in comparison to their 2019 levels. As shown in Figure 14, our data reveal that, for major metro areas like Los Angeles and New York, the trend of returning to the city centers has remained consistently low since late 2021, though some of the latest data have shown promising signs. Meanwhile, Miami and Phoenix appear to have fully recovered, and Austin has experienced more activity than before the pandemic. San Francisco downtown activity remains very depressed, down more than 60% from the pre-pandemic level. New York also suffered, having touched the nadir of 10% of its pre-pandemic traffic level, but has since recovered to 65%, according to our latest data.

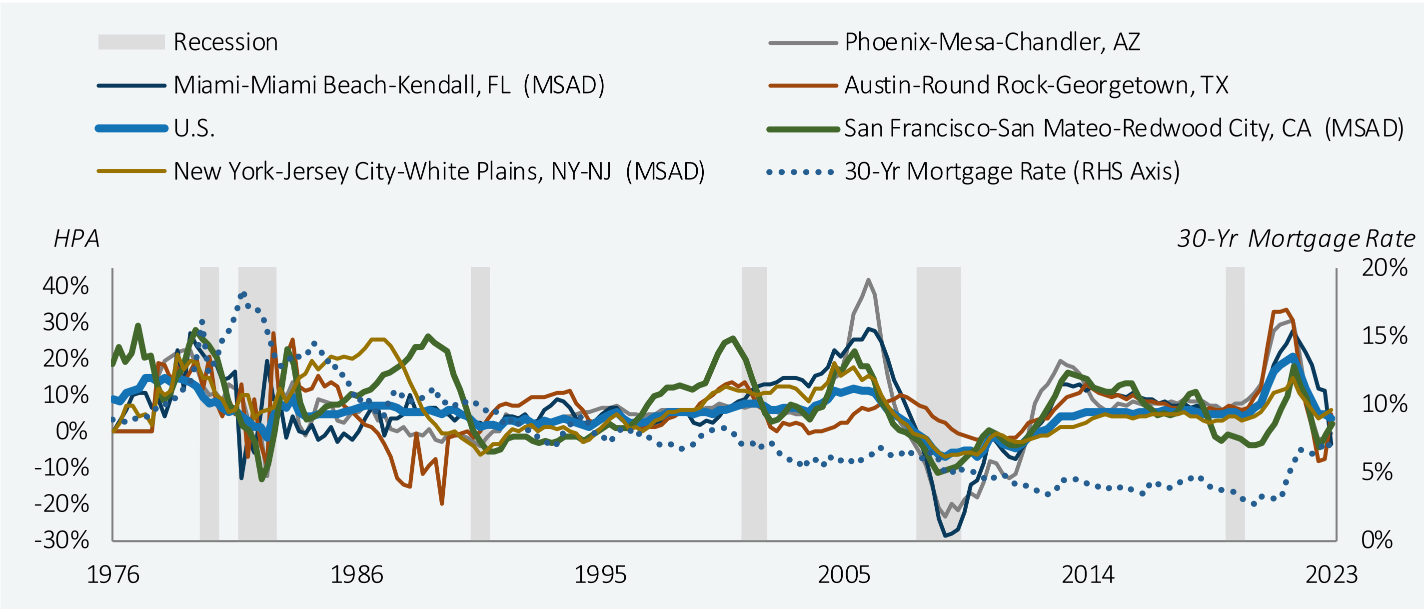
Figure 14: Downtown Foot Traffic Indexed to Pre-Covid Levels (*Rolling 90 Days)*



Source: Advan Research as of November 2023

Per Figure 15 below, cities that have experienced the most inward migration, such as Austin and Phoenix, enjoyed above-average HPA at the expense of California cities that have been witnessing outward migration. Perhaps counterintuitively, in 2023, California cities led the nation in the home price recovery as those trends modestly reversed; for example, San Diego and Los Angeles housing prices rose 6.9% and 5.0%, respectively, in 2023. Similarly, Austin has been the worst performing metropolitan statistical area (MSA) among the top 30 MSAs, with home prices down 8.3% year-over-year in December 2023. Phoenix home prices recovered somewhat during since May of last year but, on a full-year basis, were still in the red in 2023, falling 1.0%.

Figure 15: U.S. & Key MSAs: Year-over-Year HPA vs. Recession & Mortgage Rates

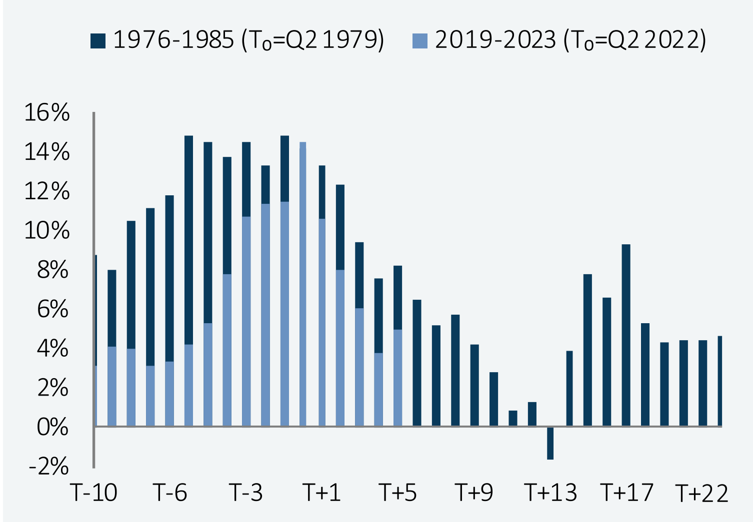


Sources: FHFA All-Transactions Indexes and TPG Angelo Gordon as of December 2023

Mortgage Rates & the Supply/Demand Balance

The Mortgage Bankers Association has forecasted an increase in both single-family mortgage originations and home sales in 2024. Should prevailing mortgage rates decline in a benign macro environment, we expect some of the lock-in effect to thaw, leading to moderately more new listing activity than in 2023. Ultimately, as rates move lower, home prices will be determined by the balance of increased supply from additional home listings and an uptick in demand from improved affordability. Looking back, data from the early 1980s shows that high prevailing mortgage rates led to a decline in housing supply, but as rates fell, the volume of home sales picked up. As reflected in Figure 16, during this period, HPA dipped but remained modestly positive before recovering to a long-term average of 3-4%.

Figure 16: Comparison of HPA in Two Periods



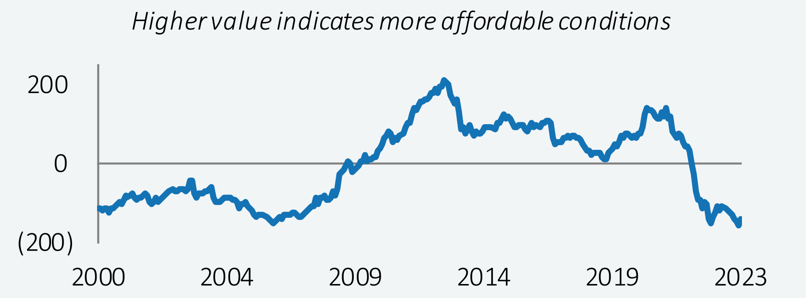
Sources: FHFA and TPG Angelo Gordon as of February 2024

Homeownership: Affordability Challenges Before & After

A major theme for the U.S. housing market will continue to be affordability, which set a record low in the third quarter of 2023, according to our proprietary home affordability index (Figure 17). Low affordability and the related lock-in effect have been a headwind to overall U.S. housing activity levels – not only transaction volume, but mortgage origination as well. Given tighter underwriting conditions (Figure 18), mortgage production has increasingly been of higher credit quality.

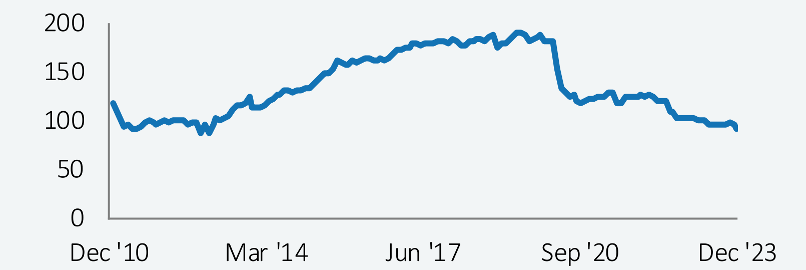
In addition to the credit box for lenders becoming tighter, homebuyers that have successfully obtained an agency-backed loan have also had sharply higher average incomes, despite smaller increases in the national median income reported by the U.S. Census (Figure 19). This finding is mirrored in the National Association of REALTORS' (NAR) "2023 Profile of Home Buyers & Sellers," which reports that "the typical homebuyer had a household income of $107,000, up from $88,000 the year before."[3] **In other words, the average residential mortgage credit in the United States in 2023 was of materially higher quality than in prior years**.

Figure 17: TPG Angelo Gordon Home Affordability Index



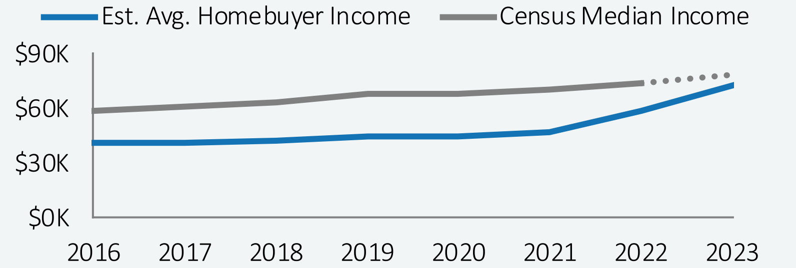
Source: TPG Angelo Gordon as of December 2023

Figure 18: MBA Mortgage Credit Availability Index



Sources: Bloomberg and MBA as of December 2023

Figure 19: Homebuyer Incomes Are Rising Faster Than the National Median



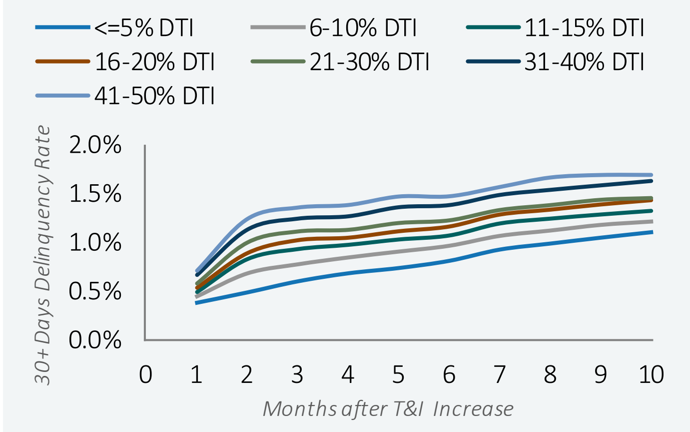
Sources: Nomura Securities Int'l, Fannie Mae, Census, Bloomberg as of December 2023

Evolving Insurance & Tax Costs Are Also Impacting Affordability

The strengthening credit and income profiles of recent buyers are encouraging given the persistent growth in property taxes and insurance costs. Much has been written about the recent historically low levels of mortgage affordability, but we have observed that such commentary generally centers on the affordability of mortgage principal and interest payments. For existing homeowners locked in a 30-year fixed-rate mortgage, another affordability risk has been developing over the last few years. Property taxes and the cost of homeowners insurance have been on the rise, reflecting the sharp increase in both home prices and the risk of a natural disaster – particularly in coastal locations and specific inland areas that are prone to wildfires.

The rise in taxes and insurance ("T&I") has had an impact on performance. In Figure 20, we show delinquency rates by number of months following a T&I increase. The borrower profiles represented in the chart are strong, as all borrowers were current for at least the previous 12 months and had original credit scores between 720-760. Performance is broken out across a number of debt-to-income (DTI) buckets as well, highlighting that T&I changes are impactful across leverage profiles. On the upside, even borrowers with higher credit scores and consistent on-time payments saw sharp increases in delinquency rates following a T&I payment shock. In their recent earnings reports, many publicly traded single-family rental operators have also mentioned that this payment adjustment has affected their portfolios.

Figure 20: Delinquency Rates Rise After T&I Increase



Source: J.P. Morgan as of December 2023

We believe the severity of the payment shock will decay as prevailing insurance rates reset to reflect the latest risks, and fewer dramatic HPA swings will theoretically lessen the effect on property taxes. However, this risk will remain prevalent over the next few years, as new originations often do not properly capture updated T&I when they are initially underwritten – a trend we have observed given our large presence in the secondary mortgage whole loan market.

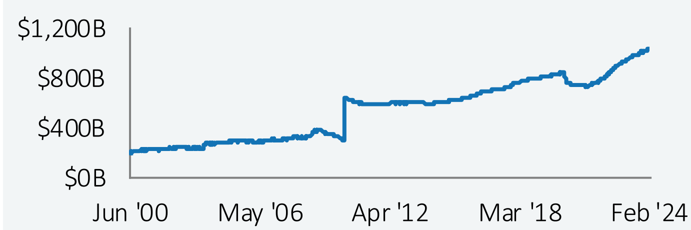
CONSUMER DEBT: FAVOR NEW ORIGINATIONS

Restricted loan origination will lead to tighter credit availability but better performance of new consumer debt vintages, while 2022 vintages will remain under pressure.

Unsecured Loans: Originator Funding Capacity vs. The Credit Box

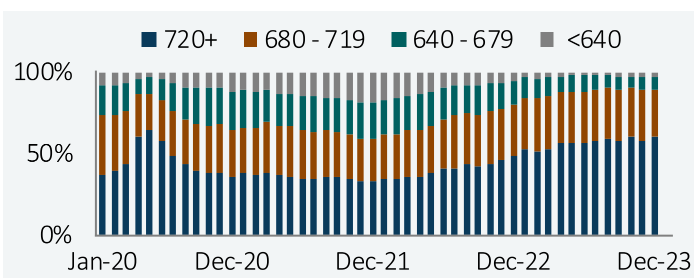
Going into 2023, we anticipated that consumer demand for closed-end unsecured credit – also called marketplace loans or "MPL" – would remain high throughout that year given most MPL are used to refinance higher cost credit card debt, which was on the rise (Figure 21). Ultimately, we expected MPL volume to be constrained only by individual lenders' funding capacity, helping sustain a stronger underwriting environment than that observed in 2022. These predictions proved correct, as the nominal amount of credit card debt has continued to grow, and **many originators have tightened their credit boxes and maintained volumes to match their funding capacity**. In Figure 22, we see that the proportion of total originations that involved borrowers with FICO scores of 720+ increased throughout 2023. In 2024, we expect around $28-$30 billion of higher quality MPL to be originated, in line with 2023.

Figure 21: Consumer Loan Originations: Credit Cards & Other Revolving Plans



Source: Federal Reserve as of March 2024

Figure 22: Percent of MPL Originations by FICO



Source: dv01 as of December 2023

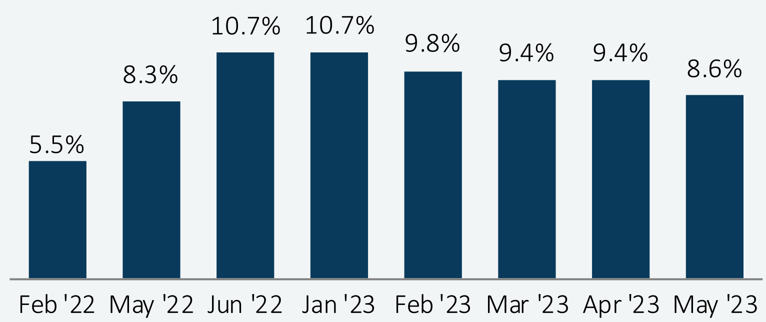
Subprime Auto: Challenged, but Better Underwriting & Performance Will Present Opportunities

The performance of all consumer assets deteriorated over the past two years, but the subprime auto sector fared the worst — facing sponsor bankruptcies and ratings downgrades while loan impairment for several shelves reached all-time highs. In this environment, asset selection will be key and a point of differentiation for experienced investors like TPG Angelo Gordon.

One clear example of this was the bankruptcy of two buy-here, pay-here (BHPH) auto lenders, both of which ceased operations in 2023. Their portfolios were transferred to another servicer, and a significant rise in delinquencies and defaults took place thereafter. Unsurprisingly, these deals were downgraded by rating agencies.

Deals by a larger subprime auto ABS sponsor – which we will call "Auto ABS Sponsor X" – also saw rating downgrades due to weak performance. However, this auto ABS sponsor is a stronger parent company and was able to support four of their 2022 deals by foregoing their servicing fees for two months. Those deals remain challenged, but this sponsor's newer deals have included more structural protections. We think this is an interesting development because the rise in credit enhancement is occurring alongside tighter lending conditions. As a result, certain subprime ABS may be structurally stronger and of higher credit quality in 2024.

Figure 23: Auto ABS Sponsor X: Initial Subordination for BB-Rated Tranches



Sources: Fitch and KBRA as of May 2023

Federal Student Loan Payments: On-Ramp Back to the Bottom

Finally, a major theme for consumer assets in 2024 will be the resumption of federal student loan payments and its impact on consumer credit performance.

Estimates from Bank of America[4] show that the average monthly payment for student loan borrowers is approximately $250. Amounting to $3,000 annually, this is no small sum; however, **we believe the repayment of federal student loans is likely to have little impact on consumer debt performance.**

Federal student loans are at the bottom of the consumer payment hierarchy. We believe this is largely due to the lenient collection practices associated with federal student loans, such as generous forbearance programs, low minimum payment requirements, and long delays before adverse action is taken against late payments. Forbearance programs – including the SAVE program, an income-driven repayment plan that replaced the Revised Pay As You Earn (REPAYE) plan – are one of the tools the federal government uses to help student loan borrowers. As of mid-February 2024, nearly 7.5 million borrowers were enrolled in the SAVE plan, including 4.3 million people with a $0 monthly payment.[5] Further, borrowers facing the resumption of repayments will have the benefit of a 12-month on-ramp period, during which adverse action cannot be taken. This is notable when you consider that an auto loan borrower faces repossession in less than 90 days should they become delinquent.

APPENDIX A: U.S. BANKING REGULATORY CHANGES

Proposed Regulatory Change	Proposed Date	Proposed Changes	Time Horizon
Basel III Endgame	July 2023	▪ One of the most impactful of the recent proposals ▪ Banks with more than $100 billion in assets to face higher capital requirements ▪ Larger Category I/II banks to increase RWA, increasing capital requirements by an estimated 19% ▪ Smaller Category III/IV banks to exclude AOCI in their capital ratios, increasing capital requirements by an estimated 6%	▪ Comment period ended in January 2024 ▪ Three-year phase in to 2028
Long-Term Debt Requirement	August 2023	▪ Banks with more than $100 billion in assets to maintain a minimum amount of long-term subordinated debt ▪ Banks required to issue additional long-term debt to comply ▪ Eligible debt must be issued at the bank Holdco level, unsecured and subordinated to deposits, plain vanilla, and longer than one year ▪ Potential for $100+ billion of incremental issuance from Category III/IV banks expected over the next 3.5 years	▪ Comment period ended in January 2024 ▪ Three-year phase in to 2027
Resolution and Living Wills	August 2023	▪ Banks with more than $50 billion in assets to face expanded resolution requirements ▪ Internal compliance costs expected to increase as affected banks will have to take on additional reporting requirements	▪ Comment period ended in November 2023 ▪ Transitional period 270 days after final rule
FDIC Special Assessment Fee	May 2023, enacted November 2023	▪ FDIC to collect assessments from banks with more than $5 billion in uninsured deposits to recover costs associated with protecting uninsured depositors ▪ 114 institutions subject to assessment ▪ FDIC estimates banks with more than $50 billion in assets will pay 95% of the assessment, totaling $16.3 billion	▪ Eight quarterly assessments beginning in Q1 2024
Interchange Fees	October 2023	▪ Lowers the maximum interchange fee large debit card issuers can receive on debit transactions ▪ Approximately 30% decrease in the fee cap for average transactions ($50) ▪ Adopts an approach for future adjustments to this cap, occurring every other year based on issuer cost data ▪ Likely to squeeze margins for banks with more than $10 billion in assets	▪ Comment period ended in January 2024 ▪ Effective the quarter following publication of the final ruling

APPENDIX B: COMPARISON OF THE U.S. & UK HOUSING MARKETS

Home prices in the U.S. and the UK have increased since the onset of the pandemic. When combined with higher prevailing mortgage rates, existing borrowers in the UK will face a payment shock when rates reset, in turn reducing affordability and creating downward pressure on home prices. The U.S. is unique in that higher rates aren't transmitted to existing homeowners due to the popularity of fixed-rate mortgages. Mortgages in the UK have rates that are fixed for two, three, or five years, after which point they revert to the standard variable rate (SVR), which reflects moves in the benchmark rates. J.P. Morgan estimates that about 800,000 UK mortgages will have refinanced in the second half of 2023 and another 1.6 million in 2024. This means 28% of owner-occupied mortgages have already been impacted and over 6 million households – which equates to 70% of total owner-occupied mortgages – will have a higher payment by the end of 2025. See the summary below for further detail on the differences between these two housing markets.

	U.S.	UK
HPA	Home prices declined month-over-month from August 2022 to March 2023. Prices have been appreciating but show signs of reverting to the long-term mean.	Home prices have been plummeting at the fastest annual rate since 2009, though HPI is still 22% higher than peak pandemic levels.
Mortgage Rates	Borrowers are unaffected by rate shocks, as approximately 90% of mortgages are locked in at lower rates deep in the money.	Approximately £414 billion of mortgages are set to reset in 2023-2024. It is estimated that about 800,000 of mortgages will refinance in the second half of 2023 and approximately 1.6 million will refinance in 2024; 19% of loans have terms of greater than 30 years.
Affordability	Affordability recently hit its lowest point of the 2000s. [TPG Angelo Gordon's Home Affordability Index] dropped below 100 in May, signifying that a household with the median income would not qualify for a median priced home.	Affordability recovered to historical averages in 2022, but has since decreased – with current levels similar to those recorded in 2007-2008. Over 6 million households will experience payment increases in 2025.
Household Formation & Demographics	Household formation is exceeding the historical average as the share of young adults living with parents fell in 2022 and the Millennial cohort is entering the prime phase of home purchasing.	The growth projected to take place in the 10 years ending in 2028 will be most seen by homeowners aged 75 or older. This group will account for 65% of total household growth.
Home Ownership	The home ownership rate is currently at 66%, approximately 2% lower than pre-GFC levels.	35% of households own a home outright, 30% have a mortgage (down from approximately 40% in the '90s), and 35% rent.
Existing Supply	There is currently an undersupply, with only 3 million existing homes versus the 6 million that are needed for a balanced market.	The current ratio is in line with historical averages. Though housing completions have been rising at a steady pace, the U.S. is still outpacing the UK.
Vacancy rate	Homeowner vacancy rates have remained near all-time lows.	Current levels are much lower than pre-GFC; however, they have been increasing since 2016.
Pandemic Impact (Migration)	The WFH trend increased homeowner demand for space. Exoduses from city centers and California have been observed since the start of the pandemic.	The WFH trend increased homeowner demand for space.
Recourse/Defaults	In general, no recourse loans will more likely lead to voluntary defaults.	Lenders are more willing to work with challenged borrowers, leading to less voluntary defaults.
Originators	This space is mostly dominated by non-bank lenders, such as Rocket, UWM, and LoanDepot.	A concentration of 6 lenders make up more than 70% of the market. The aforementioned concentration includes Lloyds, NatWest, Nationwide, Santander, Barclays, and HSBC.

ENDNOTES

1. https://oig.federalreserve.gov/reports/board-material-loss-review-silicon-valley-bank-sep2023.pdf
2. JP Morgan 2024 Securitized Products Outlook
3. https://www.nar.realtor/sites/default/files/documents/2023-profile-of-home-buyers-and-sellers-highlights-11-13-2023.pdf
4. Bank of America Save us from the student loan saga, July 7, 2023
5. https://www.ed.gov/news/press-releases/biden-harris-administration-releases-state-state-breakdown-12-billion-save-plan-forgiveness

DISCLOSURES

The information contained herein is for educational and informational purposes only and does not constitute an offer to sell, or a solicitation of an offer to buy any security. Such an offer may only be made by means of the definitive Confidential Offering Memorandum of a specific TPG Angelo Gordon fund and will be made exclusively to investors satisfying the applicable eligibility criteria.

The information contained herein may not be reproduced in whole or in part without the prior written consent of TPG Angelo Gordon.

Certain statements contained herein reflect the subjective views and opinion of TPG Angelo Gordon which may not be able to be independently verified and are subject to change. Data and views presented are as of the date hereof unless otherwise indicated and are subject to change without notice. Certain information has been obtained from third-party sources. While such information is believed to be reliable for the purposes used herein, TPG Angelo Gordon has not independently verified such information and makes no representation or warranty, express or implied, as to the accuracy or completeness of the information contained herein. Certain information regarding economic and market conditions contained herein has been obtained from published sources and/or prepared by third-parties and in certain cases has not been updated through the date hereof. All information contained herein is subject to revision and the information set forth herein does not purport to be complete.

Certain information contained in this presentation constitutes "forward-looking statements" that can be identified by the use of forward-looking terminology such as "may," "will," "should," "expect," "anticipate," "target," "project," "estimate," "intend," "continue," or "believe" or the negatives thereof or other variations thereon or comparable terminology. Due to various risks and uncertainties, actual events or results or the actual performance of any TPG Angelo Gordon investment may differ materially from those reflected or contemplated in such forward-looking statements.

For more information on TPG AG Structured
Credit & Specialty Finance, visit www.tpg.com
or contact InvestorRelations@tpg.com

TPG